Understanding and encouraging community acceptance of medium-density housing in Dunedin, New Zealand.

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Abstract

Achieving sustainability is one of the greatest and most important challenges for cities today. Consequently, as evidence suggesting that the compact city is a sustainable urban form grows, many cities are prioritising urban intensification over urban expansion, often by building more medium-density housing (MDH). Community opposition to increasing housing density has long been a barrier to the creation of compact cities, but as design-related concerns often contribute to this opposition, presenting residents with well-designed examples of MDH may be an effective way to encourage acceptance of it.

These issues are very relevant in Dunedin, which, like many New Zealand cities it, is facing housing supply and affordability crisis. Building more MDH could help to address these challenges and move the city towards sustainability, but there is limited understanding of the acceptance of MDH in Dunedin, and in smaller decentralised cities generally. Consequently, this thesis investigated the nature and extent of Dunedin residents' acceptance of MDH, and whether well-designed MDH was more acceptable. A mixed-methods approach was taken to achieve this: quantitative data were collected through an online questionnaire survey of adult Dunedin residents; qualitative data were collected via semi-structured interviews with residents and a freeform survey question.

The research revealed that MDH in Dunedin may be acceptable to most residents, provided it is well-designed and adequately supported by infrastructure. The findings suggested that acceptable options to the majority of residents are inner city apartment buildings up to 6 storeys and attached townhouses and 2–4 storey apartments and attached townhouses in the inner suburbs. However, the research also found that most residents still see MDH as inferior to standalone housing; it was typically seen as both more attractive to and suitable for younger and older adults without children. Nevertheless, the findings suggested that presenting residents with well-designed examples of MDH can encourage greater acceptance of it, especially regarding suitability for children. It was concluded that in small, decentralised cities acceptance of MDH may be higher than anticipated, and compact urban form may therefore be feasible. However, the findings highlighted that community engagement plays an essential role in ensuring that MDH is to be well-designed and acceptable to residents.

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1. Introduction

The world today is facing a multitude of social and environmental crises—climate change, biodiversity loss and wealth inequality, to name just a few (James, 2015; Raworth, 2017). Cities are some of the biggest contributors to these crises, and therefore must play a pivotal role in addressing them. As they house more than half the world's population, they are where most resources are consumed and waste is produced, and the way they work impacts the quality of life of not just their billions of inhabitants, but also the rest of the world's human and non-human population (James, 2015; UN-Habitat, 2020). There are many factors that affect the sustainability of cities, but urban form, and density in particular, is especially important. In many parts of the world, low-density development is the norm, and this can have many detrimental effects on the environment. One is that it requires a high rate of land-system change; the conversion of natural habitat and productive land to urban land results in biodiversity loss and increased emissions of greenhouse gases, especially carbon. Another main problem is that low-density urban form increases the distances between destinations, increasing dependence on motorised travel, and reducing the viability of public transport (Beatley, 2000; Jenks et al., 1996; Naess, 2014; Bay & Lehmann, 2017).

Compact cities, on the other hand, are characterised by prioritising urban intensification over urban expansion—and therefore having denser housing—and a greater mix of land uses. As a consequence, they reduce the rate of land-system change and increase the viability of public and active modes of transport, helping to protect biodiversity and reduce greenhouse emissions (Bay & Lehmann, 2017; Beatley, 2012; Naess, 2014; UN-Habitat, 2020). A compact urban form can also reduce energy consumption in a number of ways, including a very simple one: attached housing typologies are common, and these have greater energy efficiency potential than standalone homes due to sharing walls (Lehmann, 2019; Sim, 2019). Compact cities can also provide their residents with an improved quality of life, such as by reducing pollution and noise, shortening commutes, increasing the amount of urban green space, providing housing that suits a greater variety of lifestyles and enhancing community and business vitality (Boyko & Cooper, 2011; UN-Habitat, 2020; Witten et al., 2011).

Listing the benefits of compact cities suggests an urban utopia. However, creating a truly sustainable compact city is a challenging task. For one, implementing compact city ideas well, so as to actually achieve desirable outcomes requires excellent planning (Bay & Lehmann, 2017; Beatley, 2000; Witten et al., 2011). Aside from this, however, one of the main challenges is ensuring that the compact city is acceptable to its inhabitants. In cities with a tradition of low-density development, proposals to build higher-density housing—meaning any type of attached dwelling, as opposed to a traditional standalone house—are often met with significant opposition, and the majority of residents continue to prefer living in standalone suburban homes on large sections (e.g. Breheny, 1997; Doberstein et al., 2016;; Smith & Billig, 2012 Whittemore & BenDor, 2019; Williams et al., 2000; Willing & Pojani, 2017).

There are many reasons for this opposition, and as they are deeply intertwined with social norms, they vary from place-to-place to some extent. However, in general, community opposition to increasing housing density is due to the belief that it will have negative consequences such as a proliferation of poor quality housing, loss of neighbourhood character and community, loss of green space, increased noise and congestion, and ultimately an inferior quality of life compared to what traditional low-density suburbs offer (Doberstein et al., 2016; Smith & Billig 2012; Willing & Pojani, 2017). These reasons also play into why people prefer to live in standalone suburban housing, as well as factors such as privacy, ease of parking and safety, among others (Howley, 2009; Willing & Pojani, 2017).

Despite community fears, and the very real possibility of an increase in housing density being poorly done, a more compact urban form has the potential to provide significant social and environmental benefits. Consequently, how community acceptance of higher-density housing can be encouraged is an important area of research and is the focus of this thesis.

1.1 Research rationale

This research explores the issue of the acceptability of more compact urban form in the context of Dunedin, a small city in southern New Zealand. Among the advantages of compact cities mentioned above, there are several that are particularly relevant to New

Zealand cities—and not just the largest ones. Regarding the environmental reasons, transport accounts for 19% of New Zealand's carbon emissions, the second largest share after agriculture, and the country has the highest rate of car ownership in the Organisation for Economic Cooperation and Development (OECD) (OECD, 2017). A compact urban form therefore presents an opportunity to substantially reduce New Zealand's carbon footprint (Howden-Chapman et al., 2017). Housing affordability and the provision of sufficient housing to both accommodate population growth and meet the needs of an ageing population are also significant and growing issues in most New Zealand cities (Howden-Chapman et al., 2017; Johnson et al., 2018). Taking a compact city approach to housing provision and building more higher-density housing near town centres and where there is efficient public transport could help address all of these issues while at the same time minimising urban expansion. Additionally, research indicates that demand for higher-density housing is increasing, particularly among younger and older adults, suggesting that demand will continue to grow as time goes on (Early et al., 2015; Howden-Chapman et al., 2017; Opit et al., 2019b).

Nevertheless, research suggests there is still a lack of acceptance of higher-density housing among New Zealanders (e.g. Bryson, 2017; Early et al., 2015; Opit et al., 2020). As well as the reasons mentioned previously, New Zealanders' opposition to higher-density housing is influenced by the fact that New Zealand cities are typically very small and low-density by international standards. As Miller observed, "New Zealand may be a predominantly urban society, but it is very much urban with a small 'u'" (Miller, 2011: 89). This has had two important consequences for New Zealanders' attitudes to density. One is that New Zealanders often have little concern about issues such as the sustainability of urban form, and if these issues are recognised, they are seen as problems for the big cities—Auckland, Wellington and Christchurch (Miller, 2011; Early et al., 2015). The other consequence is the deeply entrenched "Kiwi dream" of owning a standalone house on a large section (e.g. Dixon & Dupuis, 2003; Howden-Chapman et al., 2017; Opit et al., 2019b; Vallance et al., 2005). The other side of this aspirational norm is a dislike of higher-density housing, and a belief that such housing is unsuitable for long-term accommodation, families with children, and is generally inferior to standalone housing (Dixon & Dupuis, 2003; Dunbar & McDermott, 2011).

Additionally—although this is also a concern in other countries—New Zealanders are often particularly concerned that increasing housing density will lead to the "slumification" of neighbourhoods, resulting in reduced safety, increased crime and lower property values (Bay & Lehmann, 2017; Dunbar & McDermott, 2011; Dupuis & Dixon, 2003; Howden-Chapman et al., 2017). Unsurprisingly, these attitudes represent a major challenge to building more higher-density housing, as not only do the majority of New Zealanders prefer living in standalone houses and resist increases in housing density, but they do not see a need for it from a sustainability standpoint. However, there has never been a greater opportunity or need to tackle this challenge; it is untenable to address New Zealand's growing housing supply and affordability crises without considering the environmental consequences of potential solutions.

It has also been noted, however, that New Zealanders' opposition to higher-density housing is likely influenced by the dearth of good quality examples, in combination with the failures—such as Britain's tower blocks, the proliferation of poor quality apartment buildings in Auckland, and the leaky building crisis—looming large in the public consciousness (Bierre et al., 2013; Bryson et al., 2017; Howden-Chapman et al., 2017; Witten et al., 2011). A number of studies have found that attitudes to housing density are influenced by lived experience (e.g. Bryson, 2017; Howden-Chapman et al., 2017; Opit et al., 2019b; Vallance et al., 2005). People who have personally experienced higher-density housing and compact urban form are more likely see it as acceptable.

If community opposition to higher-density housing is due in part to negative preconceptions of it due to of a lack of exposure to good examples it stands to reason that countering these perceptions with examples of well-designed MDH could encourage community acceptance. This is a possibility that has been mentioned by a number of authors, including Witten et al. (2011), Woodcock et al. (2012) and Bryson (2017). In particular, there is growing interest in the role of images in communicating how an increase in housing density will actually change a neighbourhood. Commonly this is done through before-after depictions (e.g. Witten et al., 2011). However, there is also scope for using images to show residents different design scenarios in order to understand what matters to them and to potentially increase awareness that density can be increased without the negative consequences usually associated with it although this is an under-researched area (Woodcock et al., 2012).

This research focuses specifically on urban intensification through building more medium-density housing (MDH). The definition used here is adapted from the definition put forward by the Building Research Association of New Zealand (BRANZ): attached dwellings (dwellings that share walls rather than being standalone) up to six storeys. This definition intentionally "encompasses all the typologies of building that are commonly thought of as MDH" but excludes standalone houses (Bryson & Allen, 2017: 6). MDH is, in most instances, a sufficient density to accommodate the population growth in cities the size of New Zealand's (Boyko & Cooper, 2011; Ritchie &Thomas, 2009; Woodcock et al., 2010). Furthermore, there is a strong argument to be made that MDH can provide a better quality of life than high-rise apartment buildings (Gehl, 2010; Sim, 2019; Witten et al., 2011) and that it is more acceptable to New Zealanders (Bryson, 2017; Early et al., 2015).

In summary, accepting the argument for taking a compact city approach to housing provision outlined earlier, the rationale for this research is that there is a need to investigate how community acceptance of this approach can be encouraged. Further, it is important to know whether presenting residents with examples of well-designed MDH is an effective way to counter negative perceptions of it and make it more acceptable to communities. This research investigates these issues in relation to Dunedin, where—as the following section will discuss—debates about urban form and housing density have recently become particularly relevant.

1.2 Research context

Like many New Zealand cities, Dunedin is facing a growing housing crisis on multiple fronts: it has insufficient housing capacity to accommodate its projected population growth, insufficient housing options to meet the needs of its ageing population and the changing preferences of its residents, and its housing affordability is declining.

Although it is one of New Zealand's main urban areas, Dunedin has a relatively small population of 131,700 and a historically low population growth rate (Statistics New Zealand, 2019; DCC, 2019c). However, the population growth rate has recently risen to an annual average of 1.3%, higher than the Dunedin City Council's high growth scenario under their 2017 population projections (Stocker, 2019; Rationale Limited, 2017). As a

consequence, within five years, the overall housing capacity is expected to be insufficient to meet demand. This in itself would be reason enough for the compact city to be relevant, as the options for increasing housing capacity are either urban expansion or urban intensification. However, in addition to this, changing housing preferences and the ageing population mean that the supply of MDH (which the DCC refers to as attached dwellings, but falls within this study's definition of MDH) is particularly insufficient (Stocker, 2019). A recent survey of Dunedin residents found that over 40% of one-person households, and two person households without children aged 65+ selected MDH as their preferred dwelling type (Akehurst et al. 2019b). However, nearly 80% of Dunedin's housing is standalone, and large standalone houses make up the majority of houses being built (Christofferson, 2007; Stocker, 2019). Additionally, Dunedin has longstanding issues with poor quality housing, and its housing is becoming severely unaffordable (Bowen, 2019; DCC, 2019d;). Overall, there is a strong argument for taking a compact city approach to addressing Dunedin's housing challenges and building more MDH. This is in fact one option that the DCC is investigating adopting in its plan change of Dunedin's Second Generation District Plan (2GP).

For the reasons discussed in the previous sections, attempts to build more MDH in Dunedin are likely to face community opposition. However, there is little research into Dunedin residents' views on urban form and housing density by either academic researchers or local government. A study by Early et al. (2015) does provide some initial useful insights. They found that Dunedin residents were less comfortable with higher-density housing compared to residents in other New Zealand cities, and a number of their key informants described the city as being "torn" between its more forward thinking and conservative groups (Early et al., 2015: 175). Even among the key informants they interviewed there was a considerable mix of views. Some interviewees supported increasing housing density in the inner city to reduce car dependence, rejuvenate languishing areas and free up suburban houses, and a common view was the need to avoid urban expansion on the Taieri Plain and other hazard prone areas.

Other interviewees thought that there was no need for Dunedin to pursue urban intensification and that there was plenty of land available that could and should be used to accommodate housing. Further, not all participants considered environmental issues such as climate change serious issues for Dunedin, remarking that environmental

problems are less evident living in Dunedin reflecting Miller's (2011) points about the small "u" urban experience. However, a number of interviewees in Early et al.'s (2015) study highlighted the need for MDH to be high quality if it was to be accepted by the community.

Overall, this research investigates community acceptance of MDH in Dunedin due to the lack of research on this topic in Dunedin—and in New Zealand's smaller cities generally—and because it is currently a pressing issue for the city. It is important to understand exactly how much of a challenge community acceptance is likely to present to building more MDH, and also whether presenting residents with examples of well-designed MDH is likely to encourage greater acceptance of it.

1.3 Research problem and questions

This research is guided by the following research question:

> *What is the nature and extent of Dunedin residents' acceptance of MDH and does the design of MDH influence its acceptability?*

To assist with answering this question, the following sub-questions, which address different facets of the main research question, were developed:

1. How willing are Dunedin residents to live in MDH in Dunedin?
2. How supportive are Dunedin residents of building more MDH in Dunedin?
3. What do Dunedin residents see as the advantages and disadvantages of living in and building more MDH in Dunedin and are these related to its design?
4. Does presenting Dunedin residents with examples of well-designed MDH encourage greater acceptance of it?

1.4 Research design

The research questions demand a research design that provides a general understanding of how acceptable MDH is to Dunedin residents generally but that also captures the nuance of their views. Consequently, this research uses a mixed methods approach, collecting both quantitative and qualitative primary data. Quantitative primary data is collected through an online questionnaire survey of Dunedin residents aged 18 or older,

to provide insight into the acceptance of MDH among Dunedin residents, and how greater acceptance can be encouraged. Qualitative primary data is collected from a freeform survey question and semi-structured interviews with Dunedin residents, selected from a pool of willing survey respondents, and these data add additional depth to the quantitative survey data.

This study also involves secondary research, including a literature review and document analysis. The literature review places the current study within the existing body of research relevant to the topic and provides the theoretical justification for it. It also informs the survey and interview questions, and the development of criteria for well-designed MDH, which in turn informs the selection of examples of well-designed MDH presented to residents in the survey and interviews. The document analysis provides context about the place of research, and further justification for focusing on the issue of compact urban form and building more MDH in this particular city.

1.5 Thesis structure

This thesis contains seven chapters. This chapter has outlined the rationale and context for this research, its guiding research questions, and the methods used to address them. The next chapter is a review of the literature relevant to the research topic. It explores the key debates around the meaning of sustainability, the sustainability of a compact urban form, how compact a compact city should be, and explores comparable studies on the acceptability of MDH. In doing so, Chapter 2 provides a more in-depth explanation of the theoretical rationale for this research. Following on from this, Chapter 3 discusses the key criteria for well-designed MDH, based on a review of relevant literature, and these criteria are used to help select the examples of MDH presented in the survey.

Chapter 4 places the research in the context of Dunedin's housing challenges, expanding upon the discussion in this chapter to provide background to Dunedin, an exploration of the city's key housing challenges and the planning context around housing provision in Dunedin. It highlights the relevance of issues around compact form and MDH to Dunedin currently, justifying this research's focus on it, as well how well the planning context enables a compact city approach to the city's housing challenges. Chapter 5 explains and

justifies the methodology of this research, including the conceptual approach taken, the specific methods used, and the ethical considerations acknowledged.

Chapter 6 presents the result of this research, integrating the data from the survey and the interviews, and Chapter 7 discusses these results with respect to the relevant literature. It revisits the research questions, discussing what the findings suggest in relation to the acceptability of MDH to Dunedin residents, with respect to both the nature and extent of their willingness to live in MDH and their support for building more of it. particular, it discusses how much design influenced Dunedin residents' views, which factors were most important and the role that presenting residents with well-designed examples of MDH can play in encouraging community acceptance of it. Chapter 7 also reflects on the limitations of this study and future research possibilities. It then concludes the thesis by presenting recommendations for approaching the challenge of encouraging acceptance the compact city in Dunedin, and making a few final remarks summarising the findings and their value.

2. Literature review

2.1 Introduction

This chapter surveys relevant literature and provides the theoretical rationale for this research. As the previous chapter established, this research is focused on understanding community acceptance of MDH, and how greater acceptance can be encouraged. However, it is important to establish the rationale for creating a compact city even if there is community opposition to increasing housing density. This is the task of the next two sections of this chapter, which establish how sustainability is understood in this research (Section 2.2) and discuss the role the urban form plays in achieving sustainability and whether the compact city can be considered a sustainable urban form (Section 2.3). The rest of the chapter focuses on the challenges of creating a compact city. Section 2.4 discusses the issue of determining how compact a compact city should be, and in doing so explains this research's focus on MDH. Section 2.5 concludes the chapter by exploring the challenge of ensuring that the compact city—and specifically building more higher-density housing—is acceptable to its inhabitants, focusing in particular on the Dunedin context.

2.2 Sustainability

The main argument for a compact urban form—and therefore denser housing—is that it is necessary to achieve sustainability (e.g. Beatley, 2000; Boyko & Cooper, 2011; Howden-Chapman et al., 2017; Jenks et al., 1996; Lehmann, 2019; Witten et al., 2011) However, before the veracity of this argument can be assessed, it is necessary to establish what achieving sustainability actually means. At first glance, this seems a simple task; the term "sustainability" has become ubiquitous, and as White points out, "many of us believe we 'know it when we see it'" (White, 2013: 213). But despite the term's prevalence, there is no single definition of sustainability, and there is still considerable debate over how it should be defined (Purvis et al., 2019). This debate is unlikely to be resolved soon, but in order to be able to meaningfully discuss whether a compact urban form is sustainable, it is still important to clarify what is meant by sustainability in this research (Toman, 1992).

This is the focus of the current section: after briefly summarising the need for sustainability, it will explore the key debates around its definition, outlining why an alternative to the mainstream definition of sustainability is needed, and ultimately arriving at the definition used in this research.

2.2.1 The need for sustainability

It is worth briefly addressing why sustainability is an important issue in the first place. As James put it, we are living in "a world in crisis" (James, 2015: 3) Arguably, the greatest crises are environmental, and the main arguments for a compact urban form rest on how it addresses them. Although humans have always faced local and regional environmental constraints, the global scale of today's human-made environmental crises poses an unprecedented existential threat to life on Earth—or at least, life as we know it (Steffen et al., 2015). A useful way to understand the magnitude of these crises is the planetary boundaries framework. The premise of this framework is that the only conditions that can definitely support modern human societies are the relatively mild and stable conditions of the last 11,700 years—the Holocene epoch (Rockström et al., 2009). It is predicted that the Holocene would continue for another 50,000 years if undisturbed. However, human activity is putting increasing pressure on the processes that regulate Earth's conditions, threatening to push the Earth out of its current Holocene-like state and into a new one, whose conditions that are likely to be "much less hospitable" to human societies (Steffen et al., 2015: 1259855-1). The planetary boundaries framework seeks to guide us away from this future by identifying nine critical processes that regulate Earth's conditions, and for each process attempting to determine how much pressure it can absorb while maintaining Holocene-like conditions. The exact point at which each process is destabilised is uncertain, so the planetary boundaries framework proposes nine boundaries located well before where this point is likely to be. Within these boundaries is a "safe operating space" where Holocene-like conditions can be maintained; beyond them the risk of pushing the Earth into a new an inhospitable state increases (Steffen et al., 2015).

Figure 2.1 shows the status of the planetary variables as of 2015. Seven boundaries have been measured so far, and four of these have already been transgressed: climate change,

biosphere integrity, biochemical flows, and land-system change. The transgression of the climate change and biosphere integrity boundaries is particularly concerning, as they have been identified core boundaries; while there are interactions between all the boundaries, these two affect every other boundary, and substantial change to either of them alone could push Earth into a new state (Steffen et al., 2015).

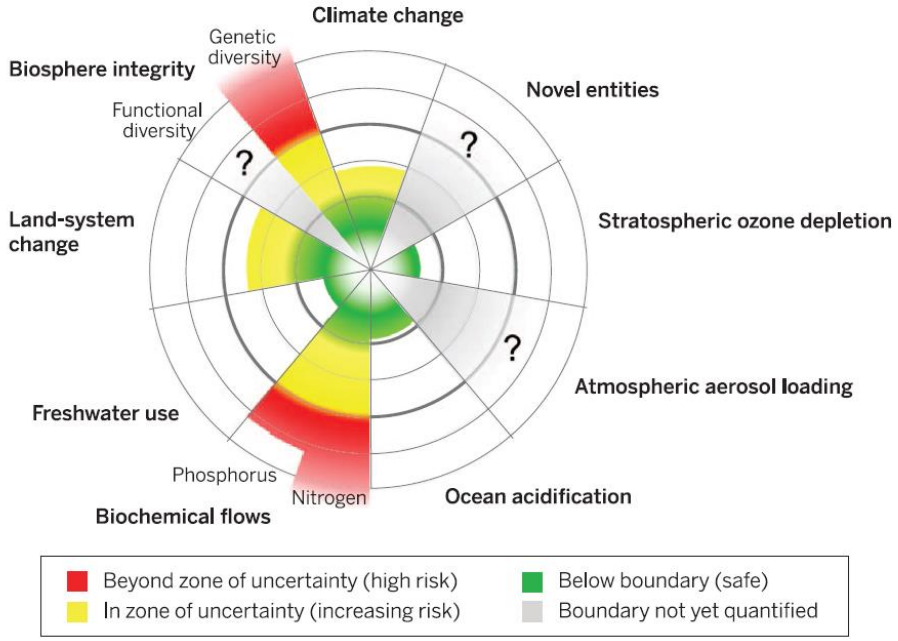

Figure 2.1 The status of the planetary boundaries as of 2015. The green represents the safe operating space, the yellow represents the zone of increasing risk, and the red represents the high-risk zone. The grey represents boundaries which cannot be quantified yet (from Steffen et al., 2015).

Cities are major contributors to the world's environmental and social crises, but also represent some of the greatest opportunities for addressing them. According to the UN, 55% of the world's population lives in urban areas, and this number is expected to reach 68% by 2050. Cities provide their inhabitants with many opportunities but at the same sites of extreme inequality, and they are also where most resource use and waste is concentrated (Ritchie & Thomas, 2009; UN-Habitat, 2020). As James says, cities "are currently spaces for the most consequential attempts at human adaptation and sustainability" (James, 2015: xiii). A prime example of the contribution of cities to environmental crises is climate change; cities may account for up to 70% of carbon emissions, primarily through the consumption of fossil fuels for buildings and transportation, and major changes to the way they work will be necessary if global

warming is to be kept within the recommended 1.5˚C (UN-Habitat, 2020). According to the Intergovernmental Panel on Climate Change (IPCC), these changes will need to include reducing emissions from buildings by 80–90% compared to 2010 levels, and from transport by 30%, by 2050 (IPCC, 2018). The issue of transport is particularly relevant in New Zealand; although agriculture accounts for the largest share of the country's greenhouse gas emissions, transport has the next largest share, making up 19% of emissions, and these two sectors are where most emissions increases have come from since 1990 (MFE, 2019). Further, reducing transport emissions will be a particularly great challenge in New Zealand, as it has the highest rate of car ownership in the OECD (OECD, 2017).

2.2.2 Defining sustainability

There may be no single definition of sustainability, but there is a definition that dominates mainstream sustainability discourse. However, there is a growing body of research suggesting that this mainstream definition does not in fact help address the world's social and environmental crises, and even undermines efforts to do so. Consequently, it is not adopted in this research, and the following discussion will explain why, outlining the mainstream definition of sustainability and the key criticisms of it. It will then present the definition of sustainability that *is* used, explain why it is an improvement on the mainstream definition, and apply it to the city scale.

The mainstream definition

There are two parts to the mainstream definition of sustainability: the definition put forward by the United Nations World Commission on Environment and Development (WCED) in their 1987 report *Our Common Future* (commonly referred to as the Brundtland Report) and the three-pillar model of sustainability. The Brundtland Report discusses sustainability in terms of "sustainable development", which it defines as:

> *"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."*
>
> (WCED, 1987: 43)

Following the publication of the Brundtland Report, sustainable development part of mainstream policy discourse around the world, and consequently is widely credited with the popularisation of sustainability as a concept (e.g. Daly, 1996; Goodland, 1995; Purvis et al., 2019; Vos, 2007; White, 2015).

The Brundtland Report sent a message that achieving sustainability did not necessarily involve limiting growth, but rather "marrying economic growth and social progress more effectively with the environment" (White, 2015: 111). This contributed to the rise of the second part of the mainstream definition: the three-pillar model of sustainability. This model conceptualises sustainability as "three interconnected 'pillars,' 'dimensions', 'components'...etc., encompassing economic, social and environmental (or ecological) factors or 'goals'" (Purvis et al., 2019: 681). It is often depicted as three overlapping circles, with sustainability occurring at their intersection (Purvis et al., 2019). This diagram, shown in Figure 2.2, represents the typical interpretation of the three-pillar model, wherein sustainability involves "bringing the three [pillars] together in a balanced way, reconciling conflicts" (Giddings et al., 2002: 189).

There are alternative depictions of the three-pillar model, and the most common, three nested circles, is also shown in Figure 2.2. These two diagrams represent slightly different interpretations of the three-pillar model; the intersecting circles depict the pillars as equally important, while the nested circles suggest there is a hierarchy among the pillars, where the economy exists as part of society, and both are dependent on the environment. The second understanding has become more popular in recent times, but the standard "balancing" approach remains dominant, as is evident from its continued use in international policy. The three pillars were implicit in the Brundtland Report, and the balancing approach has been an explicit part of UN policy since the 1992 Earth Summit. The 2012 Earth Summit and the subsequently developed Sustainable Development Goals reinforced this approach, emphasising the need to balance the three pillars (Holden et al., 2017; James, 2015; Purvis et al., 2019)

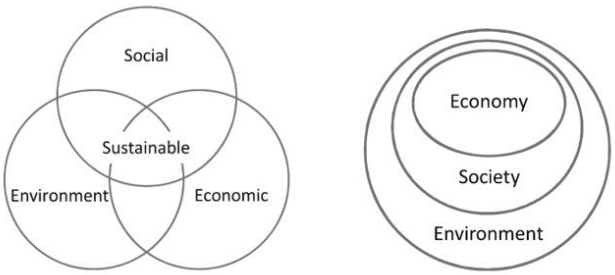

Figure 2.2 Common depictions of the three-pillar model of sustainability. On the left is the typical portrayal, where the pillars are shown as intersecting circles, and on the right is the alternative representation of nested circles (adapted from Purvis et al., 2019).

Combining the two parts described above, the mainstream definition of sustainability can be understood as meeting the needs of the present without compromising the ability of future generations to meet their own needs, through balancing the three pillars of the environment, society, and economy. This definition has been vital to encouraging a holistic view of environmental, social and economic issues, and to putting sustainability on the global agenda. As Daly points out, the Brundtland definition was "sufficiently vague" to allow broad consensus on the importance of sustainability (Daly, 1996: 2). Support for the concept was also encouraged by the three-pillar model, which was considerably less radical than the sustainability discourse of the previous decades (White, 2015). Furthermore, the definition has an appealing conceptual simplicity, and is generally "reasonable-sounding" (White, 2015: 110), which has helped it be seen as common sense (Purvis et al., 2019). The three-pillar model, in particular, very effectively communicates the idea that environmental, social and economic issues are interrelated (Giddings et al., 2002; White, 2013). The mainstream definition has therefore played an important part in causing environmental and equity issues to move from fringe activism into the mainstream.

However, the mainstream definition is not without its critics. The most common target of criticism is the definition's vagueness. Daly eloquently summarised the essence of this argument by saying, with respect to the Brundtland Report's sufficiently vague definition:

> *"Probably that was a good political strategy at the time a consensus on a vague concept was better than disagreement over a sharply defined one. By 1995, however, this initial vagueness is no longer a basis for consensus, but a breeding ground for disagreement. Acceptance of a*

> *largely undefined term sets the stage for a situation where whoever can pin his or her definition to the term will automatically win a large political battle for influence over our future."*
>
> (Daly, 1996: 2)

The same criticism is often levelled to the three-pillar model (Purvis et al., 2019). This vagueness created two major problems, both of which are articulated in the above quote. First, it has fostered disagreement over the meaning of sustainability, making it more difficult to put into practice. This is exemplified by the large volume of discourse dedicated to defining sustainability over the last three decades, and the ever-growing list of definitions, while at the same time the world's environmental and social crises are more dire than ever (Purvis et al., 2019). The second problem is that a vague definition can easily be co-opted. Daly (1996) and many other authors have pointed out that while the concept of sustainability initially implied a transformation of society, the mainstream definition enables the perpetuation of the status quo (e.g. Giddings et al., 2002; Holden et al., 2017; James, 2015; Purvis et al., 2019; White, 2015). James makes a particularly compelling case, arguing that this vagueness has allowed the mainstream definition of sustainability to be "largely subsumed as part of a set of ideas called 'market globalism' or 'neoliberalism.' Market-based sustainability practices continue to proclaim their own practical enlightenment, while, in most cases, changing relatively little except the language of development" (James, 2015: xiv)

The second main critique of the mainstream definition is that it neither explicitly states nor implies the need for limits, a concept which was at the core of sustainability discourse until the 1980s. The origins of sustainability are in the idea of sustainable yield, which is concerned with harvesting renewable resources in a way that allows them to be maintained indefinitely. This was introduced to the academic sphere in the 17th century—although similar ideas have existed for much longer—by European forestry experts alarmed by the growing scarcity of timber (Purvis et al., 2019; White: 2015). The early evolution of sustainability was also influenced by leading 18th and 19th century economists such as John Stuart Mill and Thomas Malthus. Seeing the impacts of the industrial revolution led these authors to conclude that unfettered economic and

population growth will ultimately lead to the collapse of the natural resource base and a decline in human living standards (Goodland, 1995; Purvis et al., 2019).

These ideas came to the fore again in the late 1960s, when there was a growing awareness of environmental degradation and global inequality in the West and the modern sustainability debate emerged. Two key works that influenced sustainability thought were published in 1972. The first was the Club of Rome's report, *Limits to Growth*, which argued that economic growth could not continue indefinitely on a finite planet and that there was a need for policies providing an alternative in order to prevent "a collapse of ill-defined proportions" (Vos, 2007: 335). The second was *A Blueprint for Survival*, a special edition of *The Ecologist*, in which a panel of experts argued that "our task is to create a society which is sustainable, and which will give the fullest possible satisfaction to its members. Such a society by definition would depend not on expansion but on stability" (Goldsmith et al., 1972: 6). They identified the key conditions of this sustainable society as: minimum disruption of ecological processes; maximum conservation of materials and energy; a constant population; and "a social system in which the individual can enjoy, rather than feel restricted by, the first three conditions" (Goldsmith et al., 1972: 8)

This earlier discourse is premised on the idea that limits to growth are required on a finite planet in order to sustain the natural world on which we all depend, and therefore to provide a good quality of life, and is strikingly different to the mainstream definition of sustainability. By the time the Brundtland Report was published, the discourse had shifted away from the need for limits and towards the idea that economic growth presents a solution to social and environmental ills. This has been the subject of much criticism (e.g. Giddings et al., 2002; Goodland, 1995; Raworth, 2017) because—as well as being impossible to sustain in the long term—economic growth may have positive *or* negative social and environmental consequences (Holden et al., 2017). Nevertheless, the Brundtland Report called for "a new era of economic growth—growth that is forceful and at the same time socially and environmentally sustainable" (Purvis et al., 2019: 685). Purvis et al. describe this as "a new 'win-win' scenario" that emerged by "recasting the same old economic growth in socially and environmentally sustainable colours" (Purvis et al., 2019: 684). This is embodied by the balancing approach to the three-pillar model, as this sees sustainability as the reconciliation of any conflicts between the three equally important

pillars of environment, society and economy, and typically interprets the economic pillar as an imperative for economic growth (Holden et al., 2017; Purvis et al., 2019).

The absence of limits in the mainstream definition and its balancing approach to sustainability has further enabled it to be co-opted and used to justify decisions that patently contribute to social and environmental crises, particularly because it "practically prioritises economics—although rhetorically appearing to qualify it" (James, 2015: 13). Consequently, rather than seeking to develop policies that move society away from a dependence on economic growth, as recommended by *Limits to Growth*, and later authors such as Goodland (1995), Daly (1996) and Raworth (2017), politicians continue to advocate for "sustained growth", "green growth", "long-term, lasting growth" and so on (Raworth, 2017: 41).

Overall, although the mainstream definition manages to communicate that achieving sustainability requires a holistic approach to the world's crises in a way that is easily understood, it undermines efforts to address them. In particular, because according to this definition, almost any course of action can be deemed sustainable. Consequently, it is not a useful way to assess the advantages and disadvantages of different urban forms.

(Re)defining sustainability

Some authors suggest that sustainability has outlived its usefulness, but others argue for reclaiming, redefining, and reinvigorating sustainability (James, 2015; Johnston et al., 2007), and this is the approach taken here. An alternative definition is needed—that helps identify which courses of action help to address rather than exacerbate today's environmental and social crises.

This research defines sustainability according to Raworth's (2017) Doughnut conceptualisation of sustainability. The Doughnut depicts a social foundation, below which lies critical deprivation due to shortfalls in human wellbeing, and an ecological ceiling, above which lies critical planetary degradation due to an overshoot of pressure on critical Earth systems. Between the two lies an ecologically safe and socially just space for humanity, where every person has the best possible quality of life within the means of the planet—this is the space a sustainable society will occupy (Figure 2.3). The social foundation and ecological ceiling are based on recent research and are quantifiable. The

twelve dimensions of the social foundation are based on the minimum standards for human wellbeing, as established by the Sustainable Development Goals in 2015. The ecological ceiling is based on the planetary boundaries framework, as outlined in Section 2.2.1. As Figure 2.4 shows, currently not only are four of the planetary boundaries exceeded, but there is shortfall with respect to every dimension of human wellbeing.

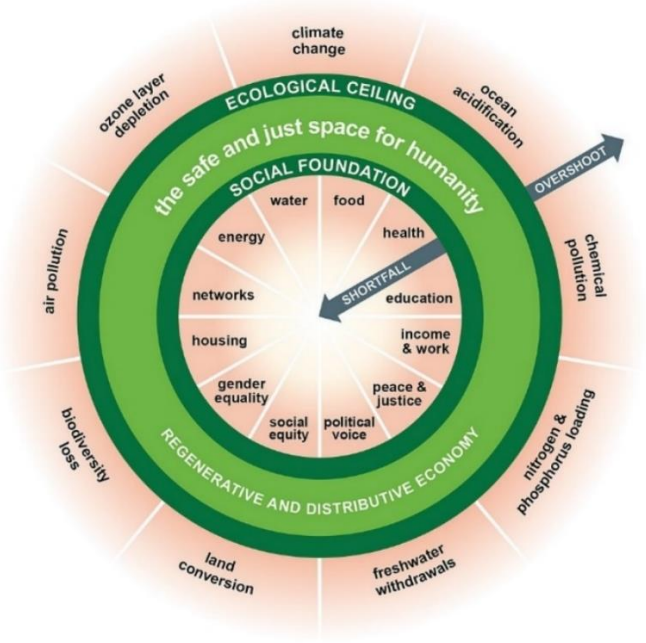

Figure 2.3 The Doughnut model of sustainability. The safe and just space for humanity lies between the social foundation and Earth's ecological ceiling (from Raworth, 2017).

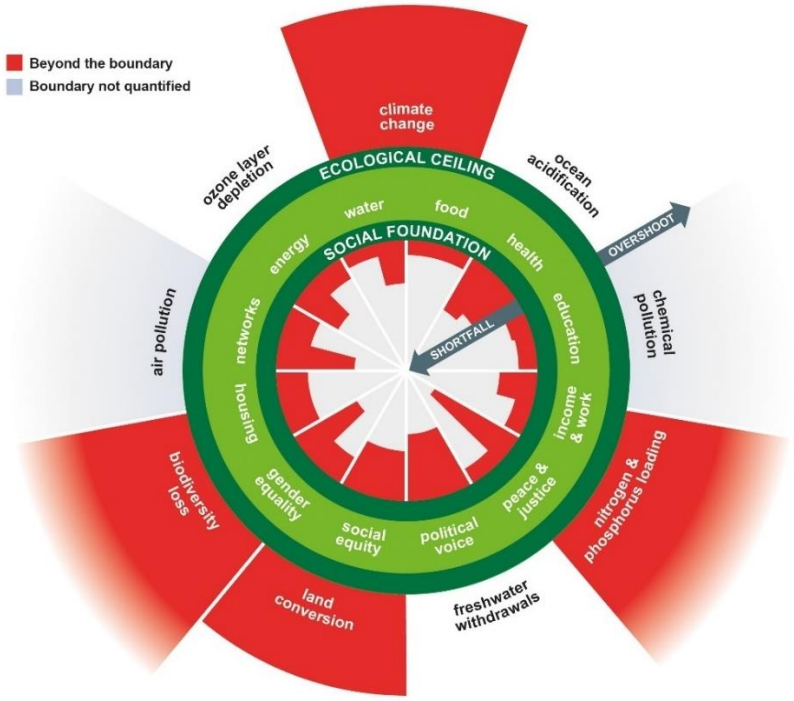

Figure 2.4 The current state of society according to the Doughnut. The social foundation is not being met, while several planetary boundaries are being transgressed (from Raworth, 2017).

So, why has the Doughnut conceptualisation of sustainability been adopted as an alternative to the mainstream definition? First, the notion of limits and the precautionary principle are clearly present in this definition. As the brief outline of sustainability discourse prior to the Brundtland Report above highlighted, the core concern of sustainability is providing for human wellbeing on a finite planet. Consequently, as well as containing the principles of futurity, equity and environmentalism (e.g. Basiago, 1995; Toman, 1992; Vos, 2007), any definition of sustainability should clearly communicate the notion of limits, as human wellbeing cannot be provided for if the environment is degraded (Daly, 1996; Goodland, 1995; Johnston et al., 2007; Morelli, 2011).

Both sustainability literature prior to the Brundtland Report and the literature critical of the mainstream definition also emphasise the importance of the precautionary principle. As we do not know exactly which aspects of the natural world—which species, for instance—are necessary to support human society, or how much degradation they can take, we should err on the side of protection in cases of uncertainty. A clear implication of both limits and the precautionary principle are absent from the mainstream definition of sustainability, whereas the Doughnut conveys the while providing a good quality of life for all people is important, this must be achieved within the ecological ceiling. Furthermore, as a precautionary approach is taken to estimating the planetary boundaries, the Doughnut also embodies the precautionary principle. These aspects make the Doughnut more difficult to co-opt, as does the fact that it frames the economy as a tool for achieving sustainability and specifies it must become regenerative and distributive rather than growth-focused, in line with arguments presented in *Limits to Growth* and by authors such as Goodland (1995), Daly (1996) and James (2015).

Sustainability can be understood as both an end goal (e.g. Daly, 1996; Goldsmith et al., 1972; Goodland, 1995; Toman, 1992) and as a process or methodology for addressing social and environmental problems (Basiago, 1995; James, 2015; Vos, 2007). A sustainable society is the goal, and decisions can be evaluated with respect to whether they are moving society towards or away from that goal. This is also embodied by the Doughnut, which sets the goal of moving society into the safe and just space and enables decisions to be assessed according to whether they are improving human wellbeing within the limits imposed by the ecological ceiling. It is worth noting that this is not a new approach, something that Raworth (2017) readily acknowledges. For instance, the definition of a

sustainable society outlined in *A Blueprint for Survival* is effectively the Doughnut in written form. The Doughnut also bears remarkable similarity to Toman's concept of a safe minimum standard, which would, based on societal values and available science, rule out "actions that could result in natural impacts beyond a certain threshold of cost and irreversibility" (Toman, 1992: 5). The Doughnut has updated these ideas according to recent research and presented them in a way that has a similar conceptual simplicity to the three-pillar model.

It is important to acknowledge that no definition is perfect. For instance, although the circle of the Doughnut implies that the dimensions of human wellbeing and the planetary boundaries are linked, these links could be clearer. Additionally, sustainability is fundamentally a very anthropocentric concept. The value of taking an anthropocentric or an ecocentric approach to dealing with environmental challenges is another debate far beyond the scope of this thesis, but it is worth noting that adopting the precautionary principle can lead to a similar environmental outcome to an ecocentric approach. For instance, as Goodland (1995) points out, if we ask how much habitat should be conserved, from an anthropocentric or an ecocentric viewpoint, the answer would be no less than what remains. Overall, the Doughnut provides a useful working definition of sustainability that overcomes many of the limitations of the mainstream definition and recognises the importance of both social and environmental outcomes. It is also being considered as the basis sustainability framework for Dunedin by the DCC, and so is particularly relevant in Dunedin currently (DCC, 2020b). The Doughnut definition of sustainability is, however, intended as "global compass", and it is therefore necessary to downscale it for it to be useful to cities, which is the scale that this research is concerned with (Fanning et al., 2020).

Urban sustainability

The question of how to use the Doughnut definition to develop a definition of urban sustainability is already being addressed in research. Cohen, for instance, suggests that if sustainability is defined according to Raworth's Doughnut, then sustainable cities are those that "are planned and managed to not drive environmental pressures beyond key thresholds while providing for livelihood and equity concerns of all inhabitants" (Cohen,

2017: 2). This aligns with previous definitions of urban sustainability; Jenks & Dempsey, for instance, describe the overarching objective of urban sustainability as:

> *"to achieve a high quality of life for the whole community within a socio-economic framework that minimises the impact of the city on the local and global environment...sustainable cities ensure wellbeing and a good quality of life for citizens, are environmentally friendly, and socially integrated and just."*
>
> (Jenks & Dempsey, 2005: 25)

Similarly, Alberti, writing in the 1990s, states that urban sustainability "requires that inhabitants' needs be met without imposing unsustainable demand on local and global resources" (Alberti, 1996: 383).

The Thriving Cities Initiative has also attempted to downscale the Doughnut to the city level, creating the first iteration of its City Portrait methodology. It seeks to create tool for holistic decision-making at the city scale—and that can be scaled up or down from this scale—that "requires every place to consider its any complex interconnections with the world in which it is embedded" (Fanning et al., 2020: 7). At the core of this approach is the question, "how can our city become a home to thriving people, in a thriving place, whilst respecting the wellbeing of all people, and the health of the whole planet?" (Fanning et al., 2020: 7). This overarching question comprises four lenses that are the result of combining two domains (social and environmental) and two scales (local and global) and can be applied to urban decision-making (Table 2.1).

Table 2.1 The four lenses of the City Portrait (adapted from Fanning et al., 2020).

	Social	**Environmental**
Local	What would it mean for the people of this city to thrive?	What would it mean for this city to thrive within its natural habitat?
Global	What would it mean for this city to respect the wellbeing of people worldwide?	What would it mean for this city to respect the health of the whole planet?

The City Portrait encapsulates both the definitions put forward by Cohen (2019) and Alberti (1996), but also emphasises the impact of cities not only on the global environment, but also on the wellbeing of people around the world. Additionally, as mentioned above, the City Portrait may be adopted by the DCC, making it especially relevant to Dunedin. For these reasons, the City Portrait definition of urban sustainability is what is used in this research: a sustainable city is one that is a home to thriving people, in a thriving place, whilst respecting the wellbeing of all people, and the health of the whole planet. The question that follows this, then, is whether a compact urban is necessary for cities to be sustainable, according to the City Portrait definition, and this is the focus of the next section.

2.3 Sustainable urban form

Many factors contribute to the sustainability of a city, but urban form is one of the most important. The term 'urban form' refers to the physical characteristics of a city, such as its size, shape, density, land uses, and configuration of green space, although it is important to note that these characteristics are also manifestations of social processes (Jenks & Jones, 2010). Debates around urban form often focus on density—which typically refers to the number of people and/or dwellings in a specified area—and this discussion of sustainable urban form will do the same, as it is closely linked with most other elements of urban form (Bay & Lehman, 2017; Jenks et al., 1996; Jenks & Jones, 2010). Focusing on density, this section will begin by providing an overview of the links between urban form and sustainability, arguing that a city's physical form has a strong influence on its sustainability. The rest of the section will discuss decentralised and compact urban forms; it will cover their emergence and the arguments for and against them, before concluding whether they are both sustainable or not.

2.3.1 Urban form and sustainability

The idea that how a city works is influenced by its urban form is not at all a new one, although historically concerns have tended to be more about human wellbeing than the impact of cities on the environment. Influential thinkers of the 19th and 20th centuries

such as Ebenezer Howard, Frank Lloyd Wright and Le Corbusier all saw urban form as one of the main solutions to the social challenges presented by urbanisation—although they all advocated for different urban forms. Debate over the merits of different urban forms continued throughout the 20th century, but the contemporary debate over the influence of the density urban form on sustainability really began in the late 1980s, when the concept of sustainability was on the rise and it became clear that cities had a role to play in achieving it. Consequently, considerable attention has been paid to understanding the links between urban form and sustainability, and the debate over the sustainability of different urban forms now has a much stronger environmental focus (Bay & Lehmann, 2017; Jenks et al., 1996; Jenks & Jones, 2010).

The concept of urban ecological footprint is a useful way to understand how cities alter their local and global environment: they occupy and modify space, import resources (such as food, water and energy), and export emissions and waste (Alberti, 1996). The specific impacts of urban form on the environment be discussed with respect to decentralised and compact urban forms, but in general, urban form both directly affects how cities occupy and modify space, and indirectly affects resource consumption and waste production (Alberti, 1996; Alberti, 2005; Jabareen, 2006). Urban form also has social implications, which, as Jenks & Jones point out, are complex and "embrace issues of both quality of life and social equity" (Jenks & Jones, 2010: 8). Consequently, these will also be discussed with respect to decentralised and compact urban forms.

The concept of sustainable urban form has been criticised for putting too much emphasis on the role of urban form in achieving sustainability, while overlooking the role of urban processes. Neuman argues that asking whether a particular urban form is sustainable is the wrong question, saying, "the form is both the structure that shapes the process and the structure that emerges from a process," and that therefore we should be asking "whether the processes of building cities and the processes of living, consuming and producing in cities are sustainable" (Neuman, 2005: 22). Vallance et al. (2011) echo this argument, stating that focusing too much on technical fixes masks the underlying social and economic processes that are the true determinants of urban sustainability. This is a valid point, as the sustainability of a city is not dependent on urban form alone, and proponents of a particular urban form do have a tendency to present it as a silver bullet. However, recent research on the issue of sustainable urban form typically presents a

nuanced view and an understanding that urban form is not *the* solution to social and environmental ills, but is a key *part* of any solution (e.g. Bay & Lehmann, 2017; Beatley, 2012; Birch & Wachter, 2008; Jenks et al., 1996; Jenks & Jones, 2010; Lehmann, 2019; Witten et al., 2011). Urban form—as Neuman acknowledges—is both shaped by and shapes urban processes; for instance, it is widely recognised that the mode of transport a city's inhabitants choose depends on the availability and adequacy of different modes, which is in turn influenced by planning decisions about urban form (e.g. Alberti, 1996; Bay and Lehmann, 2017; Birch & Wacther, 2008; Witten et al., 2011). Ultimately, it is undeniable that physical form of cities affects whether they enable their inhabitants to thrive within the city's natural habitat, as well as whether they respect the wellbeing of all people and the health of the whole planet.

2.3.2 The decentralised city

A decentralised urban form is characterised by the accommodation of population growth primarily through what is often called suburbanisation: urban expansion in the form of low-density residential development. Decentralised cities also tend to have single-use zoning that ensures the spatial separation of different land uses and be highly car-dependent. In short, however, a decentralised city is one that tends to grow out rather than up (Bay & Lehmann, 2017; Jenks et al., 1996).

Why decentralised cities?

For most of history, cities have been small and compact simply out of necessity, as walking was the main mode of transport. This began to pose major challenges in the 18th and 19th centuries, when the demand for labour created by the Industrial Revolution led to rural-urban migration on an unprecedented scale. The result of this was "urban squalor" as cities failed to provide adequate housing, sanitation and transport (Jenks et al., 1996: 16; Neuman, 2005).

The concept of the decentralised city emerged in response to these challenges; it was underpinned by a desire to create places to live without the overcrowding of industrial cities and the disease that accompanied it. One of the first influential visions of the

decentralised city was Ebenezer Howard's *Garden Cities of Tomorrow*, published in 1898. He envisaged a cluster of cities housing 32,000 around a central city of 58,000 people, linked by roads and rail. Each city was intended to combine the best aspects of urban and rural living, having a central area of civic buildings, shops and a park, a surrounding residential area of low-density standalone housing, and an outer ring of agricultural land. This belt would both feed the city's inhabitants and act as a barrier to urban expansion; when a city reached its intended population, a new one would be built (Jenks et al., 1996; Sharifi, 2016) Frank Lloyd Wright, who published his vision for the future in 1932, proposed a more extreme form of decentralisation: the Broadacre City. Wright predicted that the advent of the car would enable cities to spread further than ever before, and he saw this as an opportunity to enable people to return to living self-sufficiently on the land. In fact, the Broadacre City is almost not a city; Wright's proposal was that each household would live on one acre of land, effectively creating an agricultural landscape with factories, schools and shops scattered across it (Jenks et al., 1996; Lehman, 2017).

These utopian visions formed "the early theoretical foundation for today's suburbia" (Bay & Lehmann, Chapter 5, para. 7). They were especially influential following the Second World War, when a decentralised urban form became the norm in many American, Australian and New Zealand cities (Jenks et al., 1996; Vallance et al., 2005; Willing & Pojani, 2017). The advent of the car enabled the massive population growth of the post-war period to be accommodated through suburbanisation: urban expansion in the form of low-density residential areas (Jenks et al., 1996). It is important to note that this approach to housing provision was intended to suit a specific lifestyle—and indeed, the dominant lifestyle at the time. This was the model of "the commuting male adult returning tired to the serene dream house, whose physical and emotional maintenance was the responsibility of his wife," and families were large. Although each household did not typically live on a whole acre, home and garden "were often large enough to represent a full-time maintenance job" (Cooper Marcus & Sarkissian, 1986: 7).

Owning a standalone house in a low-density suburb has since become a deeply held social norm in many countries, including New Zealand (Beatley, 2000; Opit et al., 2019b; Willing & Pojani, 2017). This is discussed in greater detail in Section 2.5, but it is worth mentioning here that enabling ownership of a standalone house has long been a focus of the New Zealand government, which undertook interventions such as building "vast

tracts" of standalone houses to house workers and stimulate the economy following the Great Depression (Dixon & Dupuis, 2003: 355). Policies such as this helped entrench the aspiration of holding a standalone suburban home, which contributes to the perpetuation of suburbanisation (Vallance et al., 2005; Miller, 2011).

It is easy to see why the prospect of a low-density city was so appealing in comparison to overcrowded industrial cities, and indeed, the main argument for decentralised cities continues to be that they are more liveable. The majority of people in decentralised cities prefer living in a standalone house in a low-density suburb, and therefore any proposal to take a different approach to housing provision needs to be supported by strong evidence (Jenks et al., 1996; Neuman, 2006). A further argument for decentralised urban form that retains considerable traction in New Zealand, is that restricting land supply will result in reduced housing supply and declining housing affordability, whereas releasing land for urban expansion means more houses are built and affordability will improve (Howden-Chapman et al., 2015; Howden-Chapman et al., 2017).

Critiques of the decentralised city

Decentralised cities arguably provide a better quality of life at the individual level—at least for many people—they also create many problems. Awareness of these problems began to develop in the mid-20th century and has only grown with the rise of sustainability (Jenks et al., 1996; Jabareen, 2006; Bay & Lehmann, 2017). Chief among them are the environmental consequences of urban expansion, causing this pattern of development to be frequently called urban sprawl (Bay & Lehmann, 2017). In fact, Beatley argues that decentralised cities, especially in the United States, "reflect wasteful use of land and resources, with few reflecting any real sense of ecological limits or environmental constraints," (Beatley, 2000: 3).

As mentioned previously, cities occupy and modify space; urban expansion necessitates the conversion of undeveloped greenfield land into urban land. This process results in the outright loss of productive land or native habitat, as well as the fragmentation, isolation and degradation of remaining habitat. Unsurprisingly this causes biodiversity loss, and potentially the loss of entire ecosystems. It also often leads to increased carbon emissions due to loss of habitat (such as forests) or requiring what was produced on the

converted land to be imported. Decentralised cities have higher rates of land consumption, and consequently cause greater biodiversity loss and higher carbon emissions (Alberti, 1996; Bay & Lehmann, 2017; Beatley, 2000; Jabareen, 2006)

Decentralised urban form is also a barrier to reducing transport emissions. While public transport is theoretically possible, it is less efficient at low population densities, and even if it was in place, the distances travelled—and therefore energy used—would still be greater than in a more compact city (Alberti, 1996; Beatley, 2000; IPCC, 2018). Furthermore, decentralised urban form tends to discourage active modes of transport, due to both the distances being too great to travel and cycling or walking in a car-dominated city being unsafe and/or unpleasant (Beatley, 2000; Bay & Lehmann, 2017). Provision of infrastructure is also less efficient in decentralised cities, which is undesirable from both cost-efficiency and resource-efficiency viewpoints (Boyko & Cooper, 2011; Jenks & Jones, 2010).

There are also social critiques of decentralised cities. Jane Jacobs made some of the most influential arguments against them; she thought that higher urban densities facilitate diversity, social interaction and a greater sense of community and safety within neighbourhoods (Jenks et al., 1996). Similarly, many authors have argued that decentralised cities are unable to accommodate the diversity of lifestyles that have emerged since the post-war period. Cooper-Marcus & Sarkissian (1986) note that the maintenance of a traditional standalone house on a large section is a greater burden now that women are also able to work. It has also been pointed out that as people now tend to marry later or not at all, have fewer children, live longer and are more likely to divorce, there are more one and two person households who do not necessarily want a traditional suburban home (Dixon & Dupuis, 2003; Moos, 2016; Tucker & Ryland, 2014).

Regarding the issue of accommodating a range of needs and preferences, another criticism is that a car-dependent city is a city that is not equally accessible for all its inhabitants. Beatley argues that this relegates "the poor, the young and the old in our society to a second- or third-rung mobility class" (Beatley, 2000: 129). The same is true for people who are disabled or choose not to drive. Beatley (2000) also highlights that car-dependence is an impending disaster for ageing societies, from a safety point of view. If active and public transport are not viable alternatives, elderly people are likely to continue to drive so that they can retain independence, even if they can no longer drive

safely. Finally, an argument that is made in New Zealand with increasing frequency is that the protection of low-density suburbs and the continued trend of building mostly large suburban homes is contributing to the country's housing affordability crisis (Howden-Chapman, 2015; Stewart; 2020; Tucker & Ryland, 2014). It is important to highlight, however, that the social consequences of different urban forms are complex and context dependent, as will be discussed further in Section 2.3.3. Nevertheless, there is a strong body of evidence suggesting that decentralised cities are unsustainable, especially with respect to their impact on the local and global environment.

2.3.3 The compact city

Compact cities, as the name suggests, are characterised by compactness, meaning a relatively dense urban form, and the accommodation of urban growth primarily by increasing the density of existing urban areas rather than expanding onto greenfield land. In other words, growing up rather than out. This process of increasing the density of existing urban areas is known as urban intensification—or alternatively as urban containment, compaction or densification (e.g. Breheny, 1997; Couch & Karecha, 2006; Næss, 2014). "Urban intensification" is used in this research as it is the term that is typically used in New Zealand (e.g. (Allen et al., 2018; Scrafton & Bredemeijer, 2013; MFE, 2020a; Witten et al., 2011).

However, like the decentralised city, the compact city encompasses more than density alone. A key part of the rationale for the compact city is reducing car travel, and consequently a greater mix of land uses, and adequate public and active transport networks are essential elements of the compact city (Bay & Lehmann, 2017; Lehmann, 2019; Neuman, 2005). It is important to highlight, however, that a compact city does not necessarily mean a high-rise city that can only grow up; compact cities may still have low-density areas and accommodate population growth through urban expansion to some extent. Jenks et al. (1996) argue that there is a "compromise" position in the debate over the sustainability of decentralised versus compact cities that is essentially the compact city as described above: urban intensification is prioritised over urban expansion, but controlled urban expansion is still allowed when and where it is

appropriate. As Bay and Lehmann put it, compactness means an "emphasis" on intensification (Bay & Lehmann, 2017: Chapter 5, para. 15).

Why compact cities?

As discussed above, cities have traditionally been compact, but following the Industrial Revolution compact urban form fell increasingly out of favour until later in the 20th century, when the disadvantages of decentralised cities became apparent. The work of Le Corbusier marks the first significant attempt to revive the compact city. His vision of a compact city, the Radiant City—laid out in his 1935 book of the same name (*La Ville Radieuse*)—was equally as extreme as Frank Lloyd Wright's vision of a decentralised one (Jenks et al., 1996). While he was responding to the same urban problems as Howard and Wright, he thought the solution was increasing rather than decreasing housing density and proposed a city of high-rise buildings separated by public open space, and connected by public transport, to provide a cleaner, more open and efficient city. Although decentralised urban form continued to prevail, Le Corbusier's ideas have had a significant legacy, influencing, for instance, the construction of tower blocks in Britain and the U.S., and even the new cities of Chandigarh in India, and Brasilia in Brazil (Jenks et al., 1996; Lehmann, 2019). Another well-known advocate of the compact city is Jane Jacobs, who as mentioned above, saw higher housing densities as necessary to create diverse, thriving neighbourhoods and cities, and also emphasised the importance of public spaces and a walkable city to achieving these outcomes (Lehmann, 2019).

The ideas of Jacobs and other 20th century advocates of the compact city emerged in response to the growing problems associated with decentralised cities and regained mainstream popularity with the rise of sustainability. So, what advantages do compact cities offer compared to decentralised cities—can they be considered a sustainable urban form? The strongest arguments against the decentralised city are environmental, and conversely, so are the strongest arguments for the compact city. In particular, a compact urban form enables more efficient use of land and reduced carbon emissions by reducing encroachment on native habitat and productive land, and by facilitating a reduced car-dependency. This also benefits biodiversity (Bay & Lehmann, 2017; Jenks et al., 1996; Jabareen, 2006; Witten et al., 2011). Compact cities also make walking, cycling and public

transport more viable, the latter primarily due to higher population densities. Further, if cities are not only compact, but have mixed-use development and good street connectivity, the likelihood of people using public transport, walking or cycling is even higher. Moving away from car dependence also has other environmental benefits such as reduced air pollution by chemicals other than greenhouse gases, and fine particulate matter (Witten et al., 2011). A compact city with denser housing can also provide energy savings through modern innovations in combined heating and power systems (Fraker, 2013; Williams, 1999). These benefits are fairly clear cut, in particular the reduced loss of productive land and native habitat.

The social benefits of the compact city are generally more difficult to unravel. The clearest benefits relate to reduced car dependency; reduced air pollution and increased physical activity is better for human physical health, reduced noise is better for mental health, shorter commutes benefit, having adequate public transport and greater walkability means cities are more universally accessible (Beatley, 2000; Witten et al., 2011). Many other social benefits are often claimed, that together amount to a better quality of life—for instance, more diverse and vibrant urban areas, greater social interaction and sense of community, lower levels of social segregation and crime, and greater access to public green space. However, these benefits are much more dependent on the execution of the compact city (Bay & Lehmann, 2017; Beatley, 2000; Jenks & Jones, 2010; Witten et al., 2011).

There are several claims about the social benefits of compact cities that have gained traction around the world in recent years, due to the housing challenges many cities are facing, which will be explored here in more depth. One is that a compact urban form can help improve housing affordability. In particular, authors have argued that housing affordability must take into account transport costs as well as the cost of the house itself. Consequently, longer commutes from the urban fringe are more costly, and increasing housing density near city centres—and providing adequate public transport—has the potential to increase housing affordability in a broader sense (Bay & Lehmann, 2017; Howden-Chapman et al., 2017; Witten et al., 2011). Providing a greater variety of dwelling types and sizes may also help improve affordability in countries such as New Zealand, where household sizes are decreasing but house sizes continue to grow (Stats NZ, 2020). This leads to inefficient use of housing capacity, i.e. under-occupancy and vacancy of

dwellings, and providing more smaller dwellings could improve this, while also improving affordability if they are cheaper, as, in theory, they should be (Barrett, 2018; Tucker and Ryland, 2014). Furthermore, building more dwellings per area of land enables the price of each dwelling to be lower (Bay & Lehmann, 2017).

Another frequently mentioned benefit is that providing a greater variety of dwelling types and sizes will mean cities can accommodate a greater range of lifestyles. As was discussed above, lifestyles and social norms have changed, and as a consequence, smaller households are increasingly common. Furthermore, lifestyles are also changing with respect to housing and location preferences, and the appeal of a standalone house in a low-density suburb is gradually declining. More people now favour living near to key destinations such as their workplace, as well as amenities such as cafés and parks (Allen, 2018; Bay & Lehmann, 2017; Witten et al., 2011).

More specifically, compact cities are more ageing-friendly. As well as car-dependence creating cities that are not to safely and easily accessible for older residents, decentralised cities typically do not provide sufficient housing opportunities to meet their needs. Older residents often wish to downsize into a smaller home that is easier maintain and from which they can access key destinations and amenities but cannot do so without moving out of their communities; they are unable to "age in place" (Bay & Lehmann, 2017; Howden-Chapman et al., 2017; Thompson-Fawcett & Freeman 2006). Beatley (2000) notes that it is vital that cities provide dwelling types that allow people to retain independence, privacy, the ability to be part of their community and access all that a city has to offer as they age. They point out that while enabling the construction of small accessory dwellings is valuable, as it can allow older residents to live near their family while retaining some independence, it is not a complete solution as living with family is not possible or desirable for many older people. A compact city, with a greater variety of dwelling types, mixed-use development and better public and active transport networks would enable older residents to remain independent for longer, and to remain in their communities or move to new ones as they wished.

Finally, it is worth mentioning that compact cities can also potentially provide economic benefits. Chief among these is that per capita government expenditure can be reduced, as infrastructure—social and physical—can be provided more efficiently in higher-density areas. There are also arguments that compact cities have greater business vitality

and innovation due the concentration of people in them, but these benefits are highly context dependent. It can be said with confidence, however, that a compact urban form does not necessarily reduce business vitality and innovation (Bay & Lehmann, 2017; Boyko and Cooper, 2011; Williams, 1999; Witten et al., 2011).

Critiques of the compact city

As the idea of the compact city has gained traction, it has also been subject to greater criticism. One of the main arguments against compact urban form is that its benefits may not necessarily be achieved. For instance, increasing housing density may simply result in an increase in traffic congestion, noise and pollution, and a reduced quality of life (Jenks et al., 1996; Rérat, 2012). A specific critique regarding the social benefits of a compact urban form relates to equity. Projects to create compact "eco-neighbourhoods" often cater to higher socioeconomic status (SES) groups, while when compact city ideas are used to provide affordable options, they often result in poor-quality housing for low SES groups—in both instances low SES groups are disadvantaged (Rérat, 2012; Witten et al., 2011). This is a valid point, in that simply increasing housing density is unlikely to achieve many of the benefits discussed above, and it is important not to be blasé about the challenges of creating a compact city.

One of the hallmarks of a truly sustainable compact city is a strategic approach to planning, that takes an integrated and long-term view of the city (Beatley, 2000). At the most basic level, this begins with determining where a city will grow and not grow, and then the spatial distribution of different land uses and the provision of transport infrastructure. As Birch & Wachter point out, "these two streams of planning occur iteratively so that transportation infrastructure is best suited to accommodate the spatial distribution of land uses and the development patterns reinforce the transportation investment" (Birch & Wachter, 2009: 24). In particular, cities should adopt transit-oriented development, where land uses are organised "to take advantage of new and improved transit systems" (Birch & Wachter, 2009: 38). However, planning for a sustainable compact city goes beyond transport infrastructure and requires the consideration of the timeframe for increasing density in different parts of the city, how these changes will be supported by not only transport infrastructure, but all physical, social and green infrastructure, and how good design of both housing and the public realm will be ensured. This is no small challenge, and even cities such as Amsterdam, which is typically

considered a fairly successful example of a compact city, have faced consequences such as losing green space to housing (Bay & Lehmann, 2017; Beatley, 2000).

Furthermore, as Witten et al. (2011) point out, there are many instances that show the increasing housing density may not only fail to achieve the desired benefits of a compact urban form, but can actually cause harm. Some of the most well-known historical failures are the many high rise apartment buildings—often called tower blocks—built from the 1950s to the 1970s in Britain and the USA, whose construction was strongly influenced by the ideas of Le Corbusier (Bristol, 1991; Lehmann, 2019). Possibly the most infamous of these is Pruitt-Igoe, a social housing project in St Louis, Missouri, comprising 33 eleven-storey buildings intended to house 13,000 low SES residents. At the time of its completion in 1954 it was lauded as an efficient solution to the city's overcrowding problem, and its first tenants were apparently happy to be living in it. However, its occupancy rates peaked at 91% in 1957 and declined thereafter, until the development was demolished in 1975 following nearly two decades of dysfunction and high crime rates, largely due to a lack of maintenance (Witten et al., 2011; Bristol, 1991). There are many similar examples in Britain, where thousands of tower blocks were built too quickly increase the supply of affordable housing, typically on cheap greenfield land at the outskirts of cities, with poor access to public amenities and other key services. Poor design, construction and lack of maintenance led to the decay of these buildings, and the tower blocks became the slums they were intended to replace (Lehmann, 2019). However, these failures are primarily due to the poor design and construction of the buildings, lack of maintenance and the isolation of low SES from the city reinforcing their marginalisation (Witten et al., 2011).

A more recent, if less dramatic, example of urban intensification leading to poor social outcomes can be seen in Auckland. Growth in inner city job opportunities, changes in household size and lifestyles, and a policy emphasis on urban intensification, led to the construction of more apartment buildings in Auckland's central business district (CBD). Most were relatively low-cost dwellings and very small (as small as 16 m^2) with little access to green space and were generally poorly designed and constructed. Despite these apartments not being designed for families with children, many such households have moved into apartments in the CBD, as they were cheaper and more conveniently located, a phenomenon that has also been observed elsewhere in the world (Easthope &

Tice, 2011; Opit et al., 2019a; Witten et al., 2011;). This has created less-than-ideal living situations for residents, and the proliferation of poor-quality high-rise apartment buildings and lack of improved transport infrastructure resulted in outrage from the wider community (Birch & Wachter, 2008; Witten et al., 2011). However, the rebuttal to these failures is that rather than being an argument against the compact city, they are an argument *for* ensuring that it is executed well, as recent research has demonstrated that it can indeed achieve its sustainability claims (e.g. Bay & Lehmann, 2017; Fraker, 2013; Lehmann, 2019; Næss, 2014; Rérat, 2012).

The other main critique of the compact city is, as mentioned previously, many people still prefer living in low-density, decentralised cities, and therefore trying to create a more compact city is undesirable, particularly if its claims to sustainability are questionable (Bay & Lehmann, 2017; Jenks et al.,1996; Neuman, 2005; Rérat, 2012). However, as Section 2.5 discusses, communities can and do accept increases in housing density, and as the benefits of the compact city become clearer and the urgency of social and environmental crises grows, so too may community acceptance (Bay & Lehmann, 2017; Davison, 2011; Jenks & Jones, 2010; Schmidt-Thomé et al., 2013; Smith & Billig, 2012; Witten et al., 2011) Other critiques of the compact city relate more to whether urban form should be considered a key part of sustainability, such as those of Neuman (2005) and Vallance et al. (2011) discussed above.

2.3.4 Sustainable urban form(s)

From the above arguments, it can be concluded that urban form will play a key role in achieving urban sustainability, that the decentralised cities are unsustainable, and the compact city has the potential to be a sustainable urban form. It is important to note that while the visions of thinkers such as Frank Lloyd Wright and Ebenezer Howard may have been sustainable when they were created, they were not made with the scale of today's cities and crises in mind. In this sense, although Le Corbusier's ideas were certainly not without their flaws, they were arguably better suited to addressing the challenge of urban sustainability today due to dealing with cities on a much larger scale.

Today, it is clear that accommodating urban growth primarily through urban expansion is unsustainable, and in New Zealand, its associated long-term environmental costs such

as increased carbon emissions and the loss of productive land have been consistently underestimated (Howden-Chapman, 2015). In this sense, the compact city can be considered a sustainable urban form: it can be executed in a way that allows people to thrive, and is an essential step to ensuring that cities respect the wellbeing of all people within the means of their own natural habitat and those of the whole planet. However, it should be noted that there is no set of optimal city attributes, such as an ideal size and density, that can be taken as a blueprint and applied around the world, an issue which is discussed further in Section 2.4 (Alberti, 1996) Consequently, each compact city will be different in these respects, and in this sense, there are sustainable urban *forms* (Williams et al., 2000).

2.4 How compact is a compact city?

A compact city does not necessarily mean Le Corbusier's vision of high-rise apartment buildings, which may be necessary to house the populations of places such as New York City, Hong Kong and Singapore, but is not required everywhere (Boyko & Cooper, 2011; Jenks & Jones, 2010; Ritchie and Thomas, 2009). As Section 2.3.4 pointed out, it is recognised that there is no one-size-fits-all blueprint for the compact city (Alberti, 1996; Bay & Lehmann, 2017; Beatley, 2000). So, how compact should a compact city be?

As Birch & Wachter put it, density should be "environmentally responsible" but "contextually appropriate" (Birch & Wachter, 2007: 171). Seeking to achieve the benefits of a compact city primarily by encouraging infill—building on vacant sites within an existing urban area—in the form of small standalone houses is unlikely to be successful, and is more likely to result in problems such as loss of green space (Bay & Lehmann, 2017; Lehmann, 2019; Sim, 2019). However, it is clear that environmentally responsible housing densities, that are relatively high—by the standards of many decentralised cities in places like America, Australia and New Zealand—that are environmentally responsible, can be achieved "without requiring the stark, monolithic high-rise images that the term 'high density' tends to evoke" (Beatley, 2000: 78). Woodcock et al. (2010), for instance, argued that Melbourne's projected population growth could be accommodated within its urban growth boundary (UGB) without high-rise apartment buildings.

Furthermore, there are arguments that if high-rise apartment buildings can be avoided—at least as the dominant form of housing—they should be. Low-rise housing provides a better quality of life, or at least, it is harder to ensure that high-rise apartment buildings provide the same quality of life (Gehl, 2010; Ritchie & Thomas, 2009). For instance, in low-rise housing (as opposed to high-rise apartment buildings) it is easier to ensure residents have adequate privacy, and to incorporate features such as private open space, including back yards (Cooper-Marcus & Sarkissian, 1986; Beatley, 2000). These features also often make higher-density housing typologies more appealing to inhabitants of standalone suburban homes who wish to have a suburban lifestyle, as is revisited Section 2.5 and Chapter 3.

These points are especially true regarding families. While there is strong evidence that higher-density but low-rise housing meets families' needs, there is less evidence of high-rise apartment buildings providing the same positive outcomes (Bay & Lehmann, 2017; Witten et al., 2011). Research suggests that key challenges are a lack of open space that is safe for children, difficulty for parents to supervise children's outdoor play, few opportunities for social interaction, and the isolation of mothers and children (Witten et al., 2011).

Gehl (2010) makes a compelling case for low-rise buildings being more likely to provide a good quality of life. In particular, he argues that it will help create the vibrant city that Jane Jacobs advocated, which Gehl describes as the "lively city". He contends that those living on the bottom 4–5 floors of high-rise apartment buildings are more connected to the city, due to having greater visual contact with life on the city streets and trip outside that is perceived as shorter and easier. Sim echoes Gehl's arguments, pointing out the value of walkable buildings for individual wellbeing (such as enabling daily exercise, time outdoors and social interaction) and community (through greater activity in public spaces). He points out that it is easier to get in and out of lower buildings; in low-rise buildings of four or five storeys, 25% and 20%, respectively, of the accommodation can be on the ground floor with direct access outside, and "everyone can live within a minute's walk from the world outside" (Sim, 2019: 100).

The benefits of this are reflected in recent examples of compact urban form that have been highly successful (such as Bo01, a neighbourhood in Malmö, Sweden, and Vauban in Freiburg, Germany), where at least 80% of residents live on the 4th floor or below.

Similarly, 20–25% of these buildings can be the top floor, which has its own benefits such as more potential variety for the floor and roof plan, better views, more natural light, and direct access to the roof—and potentially a roof garden (Sim, 2019).

Gehl (2010) also argues having buildings up to six storeys can help to create safer cities; at this scale, there is good visual connection between homes and the street, as the case in Copenhagen. In cities with high-rise apartment buildings, such as Sydney, this idea of "eyes on the street" (pioneered by Jane Jacobs) no longer works. This principle was also put into practice in Hammarby Sjöstad, a neighbourhood in Stockholm that is one of Sweden's largest urban development projects. So far, the neighbourhood appears to be "both actually safer and perceived by its residents as such" (Ceccato, 2012: 305). For all the above reasons, both Gehl and Sim argue that if possible, housing should not exceed six storeys.

Given the size of Dunedin and its projected population growth (discussed in Chapter 4), and the quality of life advantages of low-rise buildings outlined above, there is no compelling case for high-rise apartment buildings in Dunedin, at least as the dominant form of housing. Furthermore, low-rise buildings are more likely to be acceptable to Dunedin residents, as Section 2.5 discusses further. Indeed, BRANZ has identified this form of housing as the preferred way to accommodate the population growth projections and the growing diversity of New Zealand cities generally, without reducing the quality of life of their residents (Bryson & Allen, 2017). Consequently, this is the type of housing focused on in this research.

It has been given a variety of names, such as low-rise high-density housing (Cooper-Marcus & Sarkissian, 1986) and medium-height housing (Sim, 2019). In this research, however, it is referred to as MDH, because this is the term typically used to describe these types of dwellings in New Zealand (e.g. Dixon & Dupuis, 2003; Howden-Chapman et al., 2017; Witten et al., 2011). In particular, this is the term used by BRANZ, and the specific definition of MDH used in this research is the definition forward by BRANZ, this being: attached dwellings of up to six-storeys (Bryson and Allen, 2017). The BRANZ report uses the term "multi-unit" rather than "attached", but as the latter is used by the DCC (Akehurst et al., 2019a; DCC, 2012; DCC, 2020a; Stocker, 2019), and is useful in differentiating MDH from standalone dwellings, this was the term used in this research.

The BRANZ report also differentiated a further three main categories of MDH typologies: 1–2 storey attached houses, 2–4 storey attached houses and apartment buildings (Bryson and Allen, 2017). For the sake of simplicity and communication in the survey undertaken, this was further simplified in this research to attached townhouses (as the pilot survey found this was a more useful term) and apartment buildings. Attached townhouses are defined as dwellings that share one or two common walls with the neighbours, but are otherwise separate dwellings with their own entrance. Apartment buildings, on the other hand, are multi-storey buildings that contain multiple dwellings, and often have a common entrance. Apartments share common walls with their neighbours to the side, above and/or below, and can take a variety of forms, including a house that has been renovated to contain multiple residents (Bryson & Allen, 2017). Figure 2.5 and Figure 2.6 below provide Dunedin examples of these dwelling types.

Figure 2.5 Examples of attached townhouses in Dunedin. From the left: some of the DCC's community housing on Kirkaldy St, Gladstone Terrace on Melville St and Victoria Terrace on George St, both of which are heritage buildings.

Figure 2.6 Examples of low-rise apartment buildings in Dunedin. From the left: Majestic Mansions on Bedford St, the recently completed Citibase Apartments on Filleul St, and Quest Apartments on Cumberland St.

MDH, according to the definition used in this research, is the kind of housing that the DCC is considering with regard to urban intensification in Dunedin, and it is focused in particular on attached townhouses (Akehurst et al., 2019a; Stocker, 2019).

2.5 Community acceptance

Breheny (1997) argued that before being implemented, the compact city should be subject to three tests: veracity, feasibility and acceptability. The veracity test asks whether creating a compact city will deliver its supposed benefits, the feasibility test questions whether it can be achieved (in particular, can the market forces for suburbanisation be reversed?) and acceptability asks whether people will accept a more compact urban form. The acceptability test has received the least attention among the three, but it is a key focus of this research (Breheny, 1997; Jenks et al., 1996; Witten et al., 2011). This section will discuss the acceptability of compact urban form and increasing housing density, particularly in the New Zealand context. It will begin by outlining the importance of community acceptance of the compact city, and will then discuss the extent of community acceptance, the nature of acceptance, and finally how greater acceptance can be encouraged.

2.5.1 Why does community acceptance matter?

Breheny points out that although the acceptability of the compact city has received less attention than its veracity and feasibility, it "may be the point on which the whole issue turns" (Breheny, 1997: 213). In a democracy, regardless of the strength of the arguments for the compact city, decision-makers cannot decide to make cities more compact without community support. Residents can oppose urban intensification policies or specific developments, and also "vote with their feet" when they choose where to live (Neuman, 2005; Willing & Pojani, 2017). Additionally, under a market-led planning regime, higher-density housing typologies are unlikely to be built if developers feel there is insufficient demand for them (Bay & Lehmann, 2017; Scrafton & Bredemeijer, 2013; Tucker & Ryland, 2014). Furthermore, it is not only necessary but desirable that compact cities are acceptable to their inhabitants. Part of the social foundation of sustainability is

that people have political voice (Raworth, 2017), and therefore housing provision should reflect community preferences. As many authors have pointed out, for an urban form cannot be considered sustainable if it provides good environmental outcomes but "people do not accept the way it conditions their everyday life" (Schmidt-Thomé et al., 2013: 1). It is also particularly important from an equity perspective that the views of low SES are reflected in decisions about urban form and housing provision, especially if decisions are being made with the intention of providing more affordable housing (Birch & Wachter, 2008).

For all these reasons, proposals to increase housing density need to be "grounded in an understanding of residents' preferences, and adjusted accordingly" (Willing & Pojani, 2017: 69). It is also worth noting that if this is done, outcomes are likely to be better. Various authors have noted that developers design housing according to what they think prospective residents will want, and this does not always align with what residents actually want, resulting in housing that fails to meet residents' needs (e.g. Witten et al., 2011; Tucker and Ryland, 2014; Easthope and Tice, 2011). Similarly, Scrafton & Bredemeijer (2013) point out that design guidelines are more successful if the views of the community are actually understood, so they respond to what residents actually want to live in and with. Consequently, there are two aspects of community acceptance that need to be considered with regard to building more higher-density housing: willingness to live in it, and attitudes to having more of it around, whether or not they live in it.

2.5.2 The acceptability of the compact city

Research suggests that people living in decentralised cities still favour aspects of living in compact cities. For instance, Howden-Chapman et al. (2010) note that research in the United Sates has found that a majority of people would prefer to live in a community where development is compact and mixed-use, so they can easily access their workplace and other key destinations by walking or using public transport, and that this is a particularly common preference among older residents without children. Other research has also indicated that younger and older adults without children are particularly inclined towards living in more compact communities (Doberstein et al., 2016). However, as Whittemore & BenDor observe, community opposition to increase housing density is "a

long-established force" (Whittemore & BenDor, 2019: 423). Indeed, in countries such as the United States, Canada and Australia, which have a long history of decentralised urban form, there is still a strong preference for low-density living in standalone suburban houses on large sections, especially among families with children (e.g. Doberstein et al., 2016; Howley, 2009; Smith & Billig, 2012; Willing & Pojani, 2017). As Howley (2009) points out, in many cases, people can identify both the benefits of living in a compact city, such as easy access to key services, facilities and amenities and greater opportunities for social interaction, and the perceived limitations of it, such as lack of space and increased traffic congestion. The following discussion examines whether New Zealanders hold similar views.

New Zealanders' attitudes to compact urban form

Several studies suggest that New Zealanders, in principle, support compact rather than decentralised urban form. Howden-Chapman et al. (2010) conducted a survey in 2009 which investigated New Zealanders' housing preferences and views on urban form. Early et al. (2015) conducted a survey asking many of the same questions, providing insight into whether and how New Zealanders' views were changing over time. In both surveys, around half of respondents thought urban growth boundaries were necessary for cities to be sustainable (54% in 2009, 49% in 2015), while those who thought they unnecessarily limit development were in the minority (15% in 2009, 18% in 2015). The majority of respondents also agreed that councils should have the main role in defining urban form (51% in 2009, 59% in 2015), while the minority favoured market forces (25% in 2009, 18% in 2015). In both years, a quarter to a third of respondents answered that they were unsure to both these questions. Howden-Chapman et al. (2010) suggest that this high level of level of uncertainty among respondents could indicate that these issues were not major issues of concern to them, or that respondents had simply not considered them prior to taking the survey.

Further, the 2009 survey found that 67% of respondents preferred to live within walking or cycling distance of the key destinations they travelled to most often, while just 4% did not and around a quarter said it was not a concern for them. Similarly, in both years around three-quarters of respondents approved of mixed-use development that put key destinations within walking or cycling distance of their home, rather than single-use residential and commercial areas. The 2015 survey also asked respondents whether they

supported the Auckland Plan's vision of a quality compact city—including increased housing density and improved public transport—in their own city. Despite the strong support for a compact urban form with mixed-use development, the response to this question was lukewarm, with 37% of respondents saying yes, 32% saying no, and 31% saying they were unsure or unconcerned. Early et al. (2015) point out that this could be due to residents disagreeing with some the elements of the vision mentioned in the question; for instance, they may support strengthening public transport but not an increase in housing density or following in Auckland's footsteps.

The current body of research also indicates that residents in different cities have different attitudes to urban form. Miller (2011) notes that people living in New Zealand's smaller cities, which have not faced significant urban growth pressures in recent decades, are less likely to have concerns about urban form, or urban sustainability more generally. If recognised at all, these tend to be seen as problems for the country's big cities—Auckland, Wellington, and even Christchurch. As Freeman & Thompson-Fawcett put it, this a problem of complacency; a lack of large scale environmental problems has led to an "if it ain't broke, don't fix it" attitude becoming commonplace (Freeman & Thompson-Fawcett, 2003: 17).

A considerable amount of time has passed since the work of Freeman & Thompson-Fawcett (2003) and Miller (2011), and it could be expected that over time these attitudes have changed somewhat. However, the more recent Early et al. (2015) survey, still found that in general, Aucklanders and Wellingtonians were more supportive of a compact city vision that people in other cities. As part of their survey, Early et al. (2015) surveyed 138 Dunedin residents, and around a third were supportive of a compact city vision akin to that proposed by the Auckland Plan being implemented in Dunedin, while nearly half were not, and around 20% were unsure or unconcerned. Early et al. (2015) also conducted key informant interviews, and the views of their Dunedin interviewees echoed their survey results. A common theme was that Dunedin is somewhat torn: the influence of the University of Otago and Otago Polytechnic was seen as encouraging forward-thinking and progressive attitudes, but at the same time the town retained a strong conservative side. Despite having a large rural hinterland Dunedin is not quite a provincial city, but neither does it have a high-growth outlook. Some participants thought this left the city unclear about its approach to urban form. The DCC has recognised this, and in 2019

conducted a survey to better understand residents' attitudes to urban intensification and urban expansion, although the report on this has not yet been published (DCC, 2019c).

New Zealanders' support for higher-density housing

The findings of Early et al. (2015) suggest that there is "a divide between what some participants believe is good for cities in general—a compact city with limits defined by councils—and what they want in their own neighbourhood" (Howden-Chapman, 2015: 22). The same survey conducted by Early et al. (2015), also asked respondents to asked how comfortable they would be with increased housing density in their own neighbourhood from 1 (not comfortable at all) to 5 (perfectly comfortable). Overall, respondents were most comfortable with the prospect of more attached townhouses (40% were comfortable, 35% were uncomfortable, 19% were neutral), and became less comfortable as housing density increased. The proportion of respondents who were not comfortable at all was 24% for attached townhouses, 32% for apartments up to 2 storeys, 46% for medium-rise apartments and 66% for high-rise apartments, and the proportion who were perfectly comfortable with each dwelling type decreased accordingly.

The results of a survey undertaken by BRANZ in 2017 were similar. In this survey, respondents were asked how they would feel about each dwelling type being built on their street and could choose one of the following options: I would actively oppose it, I'd be quite unhappy about it, it wouldn't bother me, I think more homes like this would be good, I'd be really pleased. Participants were much more likely to respond negatively to the prospect of higher-density dwelling types being built. Regarding standalone houses, 55% of participants were positive about having more built, and the remainder were mostly neutral. In contrast, less than 10% were positive about attached townhouses—but this was still the most acceptable higher-density option, with 61% of participants giving a neutral response. There was clear discomfort with apartment buildings: 61% responded negatively to low-rise apartment buildings, and 84% to high-rise apartments buildings.

As with views on urban form more generally, it appears that views on increasing housing density vary between New Zealand cities. Early et al. (2015) found that Wellington and Auckland were much more comfortable with having more attached townhouses and apartment buildings up to two storeys than the rest of the country, and that Dunedin

residents were the least comfortable with increasing housing density. However, the differences in views between cities shrank as housing density increased—in all cities, most people were uncomfortable with high-rise apartment buildings.

New Zealanders' willingness to live in higher-density housing

Unsurprisingly, given New Zealanders' discomfort with increasing housing density, particularly beyond attached townhouses, a standalone house in the suburbs remains the preferred housing choice for the overwhelming majority of New Zealanders. Both Howden-Chapman et al. (2010) and Early et al. (2015) found that a standalone house was the preferred dwelling type for around 80% of respondents. The 2015 survey also found that apartments were the least preferred dwelling type by a large margin. The 2017 BRANZ survey found the respondents generally would not consider living in MDH or high-rise apartment buildings, but that attached townhouses were the most acceptable higher-density option. It asked respondents to indicate their level of agreement with the statement "I would definitely consider living in this type of home in the future" on five-point scale. Respondents agreed most strongly with this statement when it referred to standalone houses (mean of 4.27) agreement was below the neutral point of three for all higher-density dwelling types and decreased as the density of the dwelling type increased (Bryson, 2017). Howden-Chapman et al. (2010) and Early et al. (2015) also investigated preferences regarding the trade-off between house size and proximity to the city centre. They found that around half of respondents to both surveys valued having more space over a shorter commute time and preferred a larger house located further from the city centre. Similarly, Bryson (2017) found that most respondents said a standalone house was the perfect size for their needs, while higher-density of housing typologies were generally seen as being too small.

However, there is demand for other dwelling types, especially MDH, rather than high-rise apartments. Bryson notes that a quarter of respondents said a standalone house was too big for their needs, and 30% and 21% said the size of an attached townhouse or a low-rise apartment building, respectively, matched their needs. This suggests that MDH would be more suitable for "a small but significant proportion of New Zealanders" (Bryson, 2017: 21). Similarly, Early et al. (2015) found that the proportion of respondents

who valued a short commute to work or other activities over house size increased from 15% in 2009 to 26% in 2015, and a that there was a roughly equivalent decrease in the number of respondents who did not mind either way, hinting at some realignment of values in favour of more compact living.

In line with international evidence, demand for higher-density housing typologies appears to be higher among young and middle-aged adults without children, and the elderly, and appears to be growing overall. Early et al. (2015) found that the preference for a larger house located further out peaks with the 35–44 age group, and then declines. On the other hand, people aged 18–24, 65 or older, one-person households and those in some kind of flatting situation were much more likely to prefer living in a smaller house, attached townhouse or apartment closer to the city centre compared to people aged 25–54 and families with children. The findings of Opit et al. (2019b) also suggest that the younger generation are more attracted to and more accepting of higher-density dwelling types, especially when located nearer the inner city. They did note, however, that most of the young adult Aucklanders interviewed in their research still aspired to one day own a standalone house in the suburbs. The BRANZ survey on the other hand, did not find that age was a predictor of housing preferences; "all age groups were equally ambivalent or reluctant to live in MDH in the future" (Bryson, 2017: 26). Bryson (2017) noted that this differed from existing literature on the topic and was unsure as to why. In any case, these age and life stage trends are important, as they suggest that demand for MDH will continue to grow as views on housing gradually shift and New Zealand's population ages (Howden-Chapman et al., 2017).

Two surveys of Dunedin residents' housing preferences have been commissioned by the DCC in the last twenty years, and the results of the recent 2019 survey reflected the trends described above. Three-quarters of respondents said they would prefer to live in a standalone house, while a smaller but not insignificant proportion preferred attached townhouses (21%), and apartments were by far the least preferred dwelling type (4%) (Akehurst et al., 2019b). However, as Table 2.2 shows, the number of people who preferred a standalone house dropped between 2007 and 2019, and the number of people preferring MDH rose. In line with the findings of Howden-Chapman et al. (2010) and Early et al. (2015), one-person households, and couples without children aged 65+ were much more likely to prefer MDH—in fact, nearly half of these households prefer

MDH, while a quarter of other-multi-person households (which are likely to mostly be students flatting) also prefer MDH. Families with children are the least likely to prefer MDH, but over three times as many said they preferred it in the 2019 survey. This is important, as while it does appear that young adults and "empty nesters" would make up most occupants of MDH, a significant—and likely growing—number of families also want the opportunity to live in MDH, so their needs should be considered in its design. Most residents preferred to live in Dunedin's inner or outer suburbs, although more younger residents and residents aged 75+ preferred living in the inner city—especially those aged 18–24, probably because many of them are students (Akehurst et al., 2019a; Stocker, 2019).

Table 2.2 Dunedin residents' preferred dwelling types in 2007 and 2019, by age and household type (from Akehurst et al., 2019b).

Household type	2007		2019	
	Standalone	Attached	Standalone	Attached
One person (< 65)	69%	31%	56%	44%
One person (65+)	58%	43%	57%	43%
Couple without children (< 65)	88%	12%	84%	16%
Couple without children (65+)	69%	31%	57%	43%
Parent(s) or caregiver(s) with children	95%	5%	83%	17%
Other multi-person household	82%	18%	76%	24%
All households	82%	18%	75%	25%

2.5.3 Understanding the acceptability of higher-density housing

Overall, the above discussion paints a picture of support for the compact city in principle, but a lack of acceptance of higher-density housing in terms of both housing preferences and support for building more of it. However, it does also highlight that there is significant demand for higher-density housing, and that this is growing. In Dunedin, it is interesting to note that younger one-person households and older couples are most likely to prefer living in higher-density housing, and the demand among families with children is also growing. The following discussion will seek to understand the nature of views of higher-density housing; why is there growing acceptance of it, and why does opposition to it remain?

The growing acceptability of higher-density housing

There are a number of reasons for the growing acceptability of higher-density housing. As mentioned previously, the ageing population and changes in lifestyle all have effects on housing preferences. Older residents are often drawn to MDH out a of a desire to live an easier lifestyle, where they have little house and garden maintenance and key services, facilities and amenities are accessible. Evidence suggests that although young New Zealanders still usually aspire to own a standalone suburban home, they may have different priorities to previous generations, and value a less car-dependent and urban lifestyle where they can easily access everything a city has to offer (Howden-Chapman et al., 2017; Opit et al., 2019b). Another interesting determinant of housing preference is the desire to live a more environmentally-friendly lifestyle. Hocking and Kroksmark (2013) note that individuals are increasingly aware that how they live contributes to environmental problems, and make lifestyle choices, including the kind of house they live in and where based on environmental impact. Their results did not suggest this was a big factor for New Zealanders, however, who they found had a strong preference for travelling by car and having their own garden.

Another important influence on housing preferences, which has also been mentioned previously, is affordability, and this only becomes more influential as affordability declines (Easthope and Tice, 2011; Howden-Chapman et al., 2017;). Opit et al. (2019b), in particular found that young people are willing to, or have no option but to, live in higher-density housing if it costs less than standalone housing. This has implications for families, as even if they would not usually choose to live in it, they may end up doing so out of necessity, and if this is not planned for it can reduce families' quality of life, as was discussed in Section 2.3.3.

Opposition to higher-density housing

It is widely recognised that lack of acceptance of increased housing density in low-density neighbourhoods is due in part to deeply entrenched social norms about the meaning of home, community and success (e.g. Beatley, 2000; Doberstein et al., 2016; Jenks et al., 1996; Smith & Billig, 2012; Williams et al., 2000 Willing & Pojani, 2017). This is certainly true in New Zealand, where it is generally agreed that lack of acceptance is tied to an

aspirational norm known as the "Kiwi dream" (alternatively the "New Zealand dream" or the "quarter-acre dream"): owning a standalone home on a large suburban section (e.g. Dixon & Dupuis, 2003; Early et al., 2015; Opit et al., 2019b; Vallance et al., 2005). As has been mentioned, New Zealand cities typically have a decentralised urban form, with the standalone suburban house remaining the dominant dwelling type, although section sizes have decreased from the traditional quarter-acre since the 1960s (Dixon & Dupuis, 2003; Stats NZ, 2020).

This approach to housing provision arose from the desire of the British to prevent the creation of the "urban hell" of Europe's industrial cities in New Zealand (Meacham, 1999, cited in Vallance et al., 2005). In line with the views of Ebenezer Howard, bringing elements of rural life into the city—through the residential quarter-acre section, for instance—was seen as a key part of the solution to this problem. These ideas have had a long-lasting influence on housing policy in New Zealand; until relatively recently, policy has been more focused on restricting rather than increasing housing density, urban growth has typically been accommodated through suburbanisation—exacerbated by the rise of the private car—and there has been a strong emphasis on enabling home ownership (Dunbar & McDermott, 2011, Opit et al., 2019b; Vallance et al., 2005). Consequently, several generations of New Zealanders have grown up to own their own suburban home, and the desire to do so has become a "deeply embedded aspirational norm" known as the "Kiwi dream" (Opit et al., 2019b: 2). As Vallance et al. point out, "most New Zealanders are still deeply immersed in a culture that values low-density, suburban living influenced by agrarian and bucolic mythology" (Vallance et al., 2005: 719). As a result, views on higher-density forms of housing are typically negative, especially in comparison to the standalone suburban home (Bryson, 2017; Dunbar & McDermott, 2011; Early et al., 2015). So, what are some of the key disadvantages that New Zealanders' associate with higher-density housing?

A number of studies suggest that perceptions of higher-density housing are generally negative (e.g. Bryson, 2017; Dixon & Dupuis, 2003; Dunbar & McDermott, 2011; Early et al., 2015; Vallance et al., 2005). Dunbar & McDermott carried out focus group research on then-current or -recent buyers in Auckland and found that MDH was consistently seen as "lacking character", "drab" and "monotonous" (Dunbar & McDermott, 2011: 27). Similarly, Vallance et al. (2005) found that their over half their survey respondents

disagreed that infill housing, including MDH, fit with existing neighbourhood character and agreed that they resented the loss of character homes to infill housing.

Concerns about the actual MDH buildings go beyond the aesthetic—they are often thought to be poorly designed and constructed (Bierre et al., 2013; Dixon & Dupuis, 2003; Dunbar & McDermott, 2011). In fact, Vallance et al. found that a common concern among all their interviewees was that the design and quality of infill housing was poor, and that this would have "widespread and significant social consequences"—although it is important to note that not all the infill housing was MDH (Vallance et al., 2005: 727). Similarly, focus group research with Aucklanders undertaken by Beacon Pathways Ltd. On behalf of the Centre for Housing Research in New Zealand, found that construction quality was one of the major concerns raised by participants (Saville-Smith & James, 2010).

Related to these issues of construction quality and the potential for higher-density housing to create "slums", are concerns that it will reduce the values of its surrounding properties (Dunbar & McDermott, 2011; Howden-Chapman, 2015). This is a view that Howden-Chapman is quite critical of, saying "the suburban pattern of standalone home ownership has also helped to build a culture of entitlement to a continuation of this pattern, on the basis that any move to build more apartments might threaten the existing value of standalone houses" (Howden-Chapman, 2015: 22).

There are various more specific design and construction quality concerns relating to MDH. Dunbar & McDermott found, for instance, that MDH was generally viewed as having parking issues, being cramped and noisy, and lacking in privacy, hobby space (e.g. an adjoining garage) a pleasant outlook, and the ability to have pets. Lack of privacy is seen as a particularly major disadvantage, and additionally, neighbours' concern about loss of privacy is a significant barrier to community acceptance. For instance, Vallance et al. found that privacy was one of the key concerns of Christchurch residents, and many felt that infill housing had invaded their privacy and expressed resentment over losing "perfect privacy" and changing their usual habits as a result (Vallance et al., 2005: 722). One participant expressed frustration over their neighbours being able to see into their kitchen and having to draw their curtains at night, and others mentioned moving their barbecue areas or washing lines so they were not directly under the window of the new houses.

The above design-related concerns relate to the perceived lifestyle disadvantages of living in MDH. An often-mentioned disadvantage is the loss of the large private garden associated with the standalone suburban home. Vallance et al. (2005) mention that their interviewees saw having a garden as providing more opportunities to be in touch with nature. Similarly Hocking & Kroksmark (2013) found that New Zealanders fear living in an apartment due to the loss of an outdoor lifestyle. Loss of a large private garden is also perceived as removing the opportunity for hobbies, especially active ones such as vegetable growing (Dunbar & McDermott, 2011; Opit et al., 2019b). Furthermore, there are concerns that building more MDH will result in reduced greenery in neighbourhoods and cities as a whole. Vallance et al. (2005) found that many survey participants and interviewees felt that infill housing brought the "concrete jungle" into neighbourhoods and caused a loss of green space. Related to this concern is the view that MDH is not appropriate for families with children. The standalone suburban home is seen as the perfect place to raise a family, due to ingrained ideas about what a childhood should be, often influenced by personal memories of having the space and freedom to play as a child. In contrast, MDH is seen as being too small, and, more importantly, lacking in adequate play areas for children (Opit et al., 2019b; Vallance et al., 2005).

Additionally, New Zealanders often see neighbourhoods that include more higher-density housing as unsafe and/or simply lacking a sense of community. For many people, the idea of community is embodied by traditional low-density suburbs, especially the experience of small neighbourly interactions, such as saying "hi", or meeting each other while dog walking, and New Zealanders' often feel that this will be lost in higher-density neighbourhoods (Opit et al., 2019b; Vallance et al., 2005). This is partly due to perceptions about the kinds of people who live in higher-density housing; Dunbar & McDermott (2011) noted that their focus group participants often associated higher-density housing with young people who party and Asian immigrants, and apartment buildings specifically with poor construction and high crime due to a history of poorly executed social housing. Vallance et al. (2005) found that their interviewees often thought the residents who moved into new higher-density housing were unfriendly, busy people unwilling to engage in the community.

A number of studies in New Zealand (e.g. Bryson, 2017; Howden-Chapman et al., 2017; Opit et al., 2019b; Vallance et al., 2005) and overseas (e.g. Doberstein, 2016) suggest that

acceptance of higher-density housing is influenced by lived experience. People who have personally experienced higher-density housing and compact urban form done well are more likely to be willing to live in and be supportive of building more of it. These findings also suggest that New Zealanders' opposition to increase housing density is exacerbated by their lack of exposure to good examples of compact development, culminating in a view that higher-density housing, such as MDH is "simply inferior" (Dunbar & McDermott, 2011: 28). This is likely to be the case in Dunedin, where nearly 80% of housing is standalone, and low-density suburban homes are the dominant dwelling type (Christofferston, 2007; DCC, 2012). Bryson argues that as a consequence, New Zealanders do not have an accurate understanding of what living in MDH can offer, and that "if MDH is to be an effective part of the solution to housing pressure, New Zealanders will need to feel they can live in a multi-unit dwelling *and* live their Kiwi lifestyles" (Bryson, 2017: 27).

2.5.4 Encouraging acceptance of higher-density housing

Overcoming entrenched housing norms and prejudices against higher-density housing is certainly a challenge, but it is also an opportunity. If higher-density housing is often unacceptable to due design-related negative perceptions of it, due in part to limited experience of it—and most of that experience being negative—it is possible that if people are exposed to examples of higher-density housing being done well, they will become more accepting of it. As Bryson points out, studies finding that people who have had experience in living in MDH are more willing to live in it—including her own—suggest that "as more New Zealanders experience living in well-planned, visually appealing, liveable MDH, attitudes and perceptions might improve, and more New Zealanders might consider living in it in the future" (Bryson, 2017: 26). They contend that although there are safe, liveable MDH communities in New Zealand, the benefits of living of them are not yet known, and that there appears to be a need to inform New Zealanders about these benefits, and that MDH can accommodate a range of lifestyles—in particular, it comes in a range of sizes, so can cater to more than one- or two-person households.

Consequently, Bryson (2017) also points to the need for research into how to educate New Zealanders about the realities of building more and living in MDH. Related to this

is the issue that as well as opposition to higher-density housing being rooted in social norms, it is also influenced by the very real history of poor examples of urban intensification, and of compact city ideas being implemented without adequate consultation. Although "not in my back yard" (NIMBY) attitudes can be the result of ignorance and prejudice, they can also be due to a genuine concern about the environmental and social impacts of proposals (Whittemore & BenDor, 2019). Furthermore, as Witten et al. (2011) and Bryson (2017) observe, this response is not surprising when there are relatively few examples of urban intensification done well. Woodcock et al. (2012) make an absolutely central point on this topic, noting that there has been little investigation into encouraging community acceptance through addressing the concerns of NIMBYs:

> *"It has often been assumed that objectors are merely conservative and self-interested NIMBYs, and moreover that broader cultural prejudices against denser urban environments will forestall meaningful debate, yet the role that urban design visions have in compact city planning processes has not been rigorously researched or theorised."*
>
> (Woodcock et al., 2012: 66)

In light of these insights, there has been growing interest in the role of design and consultation in encouraging community acceptance, and particularly in the role of images in communicating how an increase in housing density could change a neighbourhood. Often, this is in the form of before-and-after images that show a location with and without higher-density housing (Witten et al., 2011; Woodcock et al., 2012). Woodcock et al. argue that images showing the visions of policies are often underused in consultation as "they imply a fluidity of outcome when certainty is desired", but the result of this is that "residents often do not understand what they are supporting or objecting to, and it is one reason that some residents will object even when there are no images to object to" (Woodcock et al., 2012: 77). It is easy to see that this could be a problem especially in cities characterised by low-density, decentralised urban form with few instances of higher-density housing.

Witten et al. (2011) discuss this in the context of Tauranga, a city in the North Island of New Zealand slightly larger than Dunedin. Andy Ralph, a planner involved the community

consultation process for urban intensification in Tauranga, noted that images showing what proposed increases in housing density could look like could help residents understand what it would actually mean for their neighbourhood. However, only in the inner city was there any kind of positive reaction to proposals for intensification; even after several years of consultation, suburban residents remained opposed. Intensification in the suburbs was put on hold, and Ralph states that the process raises challenges about how to communicate to a community the consequences of intensification "without frightening people in that community off the idea" (Witten et al., 2011: 101). Looking at the images shown to residents (Figure 2.7) however, it is easy to see why there was significant opposition; not only is the change in density considerable, but according to the criteria outlined in Chapter 3 the housing is poorly designed.

Figure 2.7 Images shown to Tauranga residents to help communicate the visual impact of urban intensification in a suburb (from Witten et al., 2011).

Woodcock et al. (2012) argue that images can play a greater role than simple before-after depictions, and that there is little understanding of how images showing a variety of possible outcomes impact residents' views on increasing density. They found that images showing different scenarios garnered very different responses from residents they interviewed. In particular, they found that the design variables they tested—height, setback and take-up rates—significantly affected the acceptability of scenarios. Changing the scenarios from four to six storeys, setback to no setback and from 20% to 60% take-up reduced acceptability by more than three times. These findings indicate that images of well-designed higher-density development can indeed encourage community acceptance. However, this leads to another question: what are the features of well-designed MDH?

2.6 Conclusion

This chapter has placed the current study within the existing body of relevant research, and set out the theoretical rationale for it. Section 2.2 and Section 2.3 provided the big picture rationale for this research. There is a need to encourage community acceptance of the compact city, because taking a compact urban form is necessary to achieve sustainability—to move society into the safe and just space for humanity, and with respect to cities, to ensure that they are home to thriving people, in a thriving place, while respecting the wellbeing of all people and the health of Earth as a whole. It is therefore necessary to take a compact city approach to housing—meaning prioritising urban intensification over urban expansion when providing housing, and ensuring this is done well. MDH is the focus of this research as it is an environmentally responsible density for Dunedin, is generally considered to provide a better quality of life for its residents than high-rise apartment buildings, is likely to be more acceptable to Dunedin residents that high-rise apartment buildings (Section 2.4).

Section 2.5 provides the rationale for this research's focus on community acceptance of MDH in Dunedin, and with the role of design and well-designed examples of MDH in encouraging greater acceptance. In essence this is that a key challenge of creating a compact city is ensuring it is acceptable to its inhabitants, and that not only may well-designed MDH be more acceptable residents of decentralised cities, but that presenting residents with examples of well-designed MDH may encourage greater acceptance of it. Section 2.5 also provides part of the rationale for this research's focus on Dunedin: most research into the acceptability of the compact city in New Zealand has focused on larger cities such as Auckland, Wellington and Christchurch.

3. Designing density well

3.1 Introduction

The previous chapter revealed that although the compact city has the potential to be a sustainable urban form, whether its benefits are realised depends on how it is executed, and a key aspect of its execution is the design of higher-density housing. Good design is vital to the success of any city, although it remains a challenge in many places, often because it is not given the priority that it deserves. The UK's Commission for Architecture and the Built Environment (now the Design Council) argued that this is partly because people often assume design is subjective, although good design "can happen in many styles and appeal to some tastes and not others" (CABE, 2006: 16). Another assumption that leads to design being overlooked is that "good design doesn't add enough value to justify any additional costs it might bring with it" (CABE, 2006: 10). However, even if good design requires greater initial investment, the value it adds typically far outweighs the cost of bad design (CABE, 2006; Simmons, 2009).

Furthermore, as Section 2.4 discussed, design becomes even more important at higher densities. As Lehmann puts it, "new and better housing typologies, a wider range of housing models, and innovative design solutions that integrate urban greenery and high quality public space. Landscaping, green roofs, and the design of community spaces are important elements from the outset of each development" (Lehmann, 2019: 93). The design of higher-density housing can also influence community acceptance of it, as explored in Section 2.5. Consequently, it is important to identify key criteria for well-designed MDH, and this is the focus of the current chapter.

3.2 Criteria for well-designed MDH

This study takes the same approach as Cooper-Marcus & Sarkissian (1986) and focuses on site design, meaning that the design of building interiors is not discussed. This is primarily because research suggests that the success of MDH depends more on the design of the overall site than of building interiors (e.g. Cooper et al., 2009; Cooper-Marcus & Sarkissian, 1986; Lehmann, 2019; Ritchie & Thomas, 2009; Sim, 2019). The focus

on site design also means that although the site location is considered, wider urban design and planning issues are not; for instance, having adequate public and active transport networks is seen as a prerequisite for building more MDH, for the reasons discussed in Chapter 2. It is also assumed that all buildings will comply with relevant construction regulations.

The discussion of criteria for well-designed MDH below is based primarily on the following works:

- "Medium-density housing assessment tools: summary report" (Ryan & Smith, 2018).
- "Medium-density housing case study assessment methodology" (MFE, 2012).
- "The Auckland Design Manual" (Auckland Council, 2018).
- "Building multi-unit housing (in living 3 zones): an urban design guide for Christchurch" (CCC, 2014).
- *Designing Sustainable Cities* (Cooper et al., 2009).
- *Sustainable Urban Design: an Environmental Approach* (Ritchie & Thomas, 2009).
- *Cities For People* (Gehl, 2010).
- *Soft City: Designing Density for Everyday Life* (Sim, 2019).
- *Housing As If People Mattered: Site Design Guidelines for Medium-density Family Housing* (Cooper-Marcus & Sarkissian, 1986).

The works listed above were chosen based on their degree of influence, whether their approach to design aligns with the definition of sustainability used in this research, and—for the New Zealand design guides used—their relevance to New Zealand, and Dunedin in particular. It is worth drawing attention to two of above works. First, Cooper-Marcus & Sarkissian's 1986 book *Housing As If People Mattered* was published more than thirty years ago, but has been highly influential and remains one of the most extensively researched design guides, based on more than a hundred post-occupancy evaluations of MDH around the world. Second, Ryan & Smith's (2018) guide was prepared for BRANZ as a tool for assessing the quality of MDH and is in turn based on nine different design guides as well as a survey of residents' views on living in two Auckland MDH developments.

3.2.1 Context

It is widely recognised that good design requires being responsive to the local context. This is an essential part of creating a development that has its own sense of place and that contributes to its neighbourhood's sense of place—a development that people want to belong to and that belongs where it is. Achieving this involves responding to both the natural and human context according to the criteria set out in Table 3.1 below (Auckland Council, 2018; Cooper-Marcus & Sarkissian, 1986; Ritchie & Thomas, 2009; Ryan & Smith, 2018).

Table 3.1 Key design criteria for ensuring that MDH responds to its local context.

Context: *the development responds to the local context to maximise site opportunities, create a sense of place and ensure that the development belongs where it is.*	
Responding to the natural context	• Important natural features are retained. • Site layout and buildings respond to the landscape to minimise earthworks and maximise site opportunities.
Responding to the human context	• Important heritage features are retained. • Site layout and buildings take cues from existing neighbourhoods. • Site location and layout minimises exposure to stressors.

A key part of responding to the natural context is responding to the landscape, which, as Ritchie & Thomas point out, is "the basis for creating places", as each site has its own set of attributes (Ritchie & Thomas, 2008: 31). Responding to the landscape involves retaining a site's important natural features (such as mature trees), designing the site layout and buildings to minimise alteration of the landform. For instance, on a steep site, attached townhouses can be constructed at different elevations rather than flattening the site, and buildings can be arranged to protect mature trees (Friedman, 2015; Beatley, 2011). As is discussed below, this has other advantages, such as creating variety in built form and a biophilic urban environment.

Responding to the human context involves retaining a site's important heritage features and designing buildings that take cues from the character of existing neighbourhoods. (CCC, 2014; Ritchie & Thomas, 2009; Ryan & Smith, 2018). Taking cues from the neighbourhood does not necessarily mean replicating the form of existing buildings, although this still tends to be part of New Zealand MDH design guides. The Ministry for the Environment's design guide, for instance, does not address specific architectural styles but does recommend that rooflines are pitched to visually separate dwellings

and/or tie in with existing buildings, as most New Zealand houses still have pitched roofs (MFE, 2012). Similarly, the Christchurch City Council's design guide recommends that new developments are sympathetic to heritage building. It goes further than the MFE guide, however, suggesting that new buildings reflect features of heritage buildings such as their size and shape, window spacing and window and door trims. (CCC, 2014). In general, however, the most important part of taking cues from neighbourhood character is responding to aspects of neighbourhood character most valued by the community. These aspects may be built character, but they could equally be social character, as Davison (2011) found, or natural character.

Responding to the natural and human context is also an important part of ensuring a development and wider neighbourhood are liveable. Regarding the natural environment, the site layout and orientation of building should respond to the landscape and local climate to maximise site opportunities such as outlook, privacy, sun and microclimate. This is also important in terms of environmental environment which is discussed further below. Responding to the human context is also essential to maximise site opportunities, particularly privacy and outlook. For instance, new buildings should note be oriented so that dwellings look directly into the windows of adjacent buildings, or so that their outlook is only of blank walls or a parking lot. Further, it is important to consider how a new development will interact with what is around it with regard to features such as its height, bulk and orientation to ensure the development does not have negative impacts such as excessive shading on adjacent private and public property (Auckland Council, 2018; Cooper-Marcus & Sarkissian, 1986; Ryan & Smith, 2018).

3.2.2 Accessibility

It is important that all people have a home that is accessible to them, and that from their home they can safely and easily access their wider neighbourhood and city. Table 2.3. outlines several key design considerations with respect to accessibility.

Table 3.2 Key design criteria for ensuring the accessibility of MDH.

Accessibility: *the development, neighbourhood and city are safely and easily accessible to all residents.*	
Neighbourhood and city accessibility	• Comfortable walking distance to urban amenities and public and active transport networks. • Adequate car parking provision and storage space for other vehicles.
Development accessibility	• Ground floor dwellings designed to be suitable for residents with reduced mobility (including the elderly) and families with children. • Buildings not only accessible by stairs. • Whole development accessible by paved paths. • Rubbish facilities easily accessible. • Pedestrians separated from or have precedence over vehicles.
Parking provision	• Car parking and other vehicle storage space is easily accessible. • Car parking in private garages, secure shared garages, or parking spaces visible from dwellings. • Car parking spaces are not visually dominant.

To ensure the accessibility of the neighbourhood and city, where possible, MDH should be located within comfortable walking distance of urban amenities. This also encourages active transport, reduces traffic congestion and creates opportunities for social interaction as people walk to and from, and spend time in, destinations such as schools, cafes and public parks. Regarding traffic congestion and access to the wider city, it is particularly important that occupants of MDH can easily access both active and public transport networks (Ritchie & Thomas, 2009; Ryan & Smith, 2018). Furthermore, adequate car parking needs to be provided, although the quantity of car parks will vary between developments. Some may be car free, or only provide a few car parks for visitors or elderly and disabled residents. Others may provide at least one car parking space per dwelling. If car parking for residents is provided, private garages with internal dwelling access are usually preferred, as they provide security, ease of access and a useful storage location. Where this is not possible or desired, good alternatives are shared garages or car parks that are visible from dwellings, which still provide a sense of security for car owners. Car parks should be easily accessible to residents with reduced mobility, and therefore need to be internally accessible from dwellings or near them, and have sufficient space around them. Parking space for other modes of transport, such as bicycles, should also be provided near the entrance of each dwelling or group of dwellings (Cooper-Marcus & Sarkissian; MFE, 2012).

Having easy access to parking spaces is one aspect of accessibility within a development. Another, emphasised by Sim (2019), is its walkability. It is important to note that despite its name, the concept does not apply only to walking; it relates to the general ease of moving around and in and out of a building. Sim identifies three aspects of building walkability: walking in, walking through and walking up. Walking in is the ability to travel straight in and out of a building at the ground floor. This ensures the outside world is easily accessible, as the ground floor offers—or should offer—universal access, and priority for ground floor dwellings should be given to people the elderly, disabled residents with reduced mobility and families with children (Cooper-Marcus & Sarkissian, 1986; Sim, 2019). Walking through means the ability to walk straight through a building by way of a covered passage or connecting hallway. This allows people to travel quickly and easily from shared space such as a courtyard space into the public realm, which is very convenient (Sim, 2019).

Sim argues that even if they have elevators, apartment buildings should still be designed so residents can walk up them. A key aspect of this is simply having buildings no taller than 6 storeys, as this means all residents are potentially a one-minute walk from the outside world. Sim sees stairs as valuable from a physical activity perspective, but also emphasises that having shorter in and out of buildings helps to ensure accessibility for people with all levels of mobility. In addition to height, it is important that accessways are designed to provide the most direct access outside for all floors. Sim points out that many 20th century apartment buildings are only accessible form one side. This means it takes several minutes to walk to the ground floor and outside from the upper floors—and likely longer by elevator—and the likelihood of frequent and spontaneous trips outdoors is reduced. Other key aspects regarding the accessibility of the development are that stairs should not provide the only convenient access to dwellings, and communal space should be easily accessible to all levels of mobility (for instance, by ensuring communal open space has access routes that have no stairs or steep gradients).

Finally, it is important there is safety from vehicles within developments, especially for children and residents with reduced mobility. The requires means pedestrians should be separated from or have precedence over vehicles. Ryan & Smith (2018) state simply that the design should reduce conflict between cars and other users. Cooper-Marcus & Sarkissian go further than this, and most other guidelines, specifying that "vehicle access

and parking arrangements should respect the need for an uninterrupted network of safe, landscaped spaces for children and adults" which makes them more attractive places for children to play or for recreation such as walking, socialising or reading (Cooper-Marcus & Sarkissian, 1986: 207). They emphasise that these communal pedestrian spaces should be at the heart of MDH design, with buildings and vehicle access arranged around them, rather than having communal open space being lost to car parking and access. Regarding children specifically, it is good practice to minimise the number of children who need to cross parking space or roads to access communal open space from their dwellings—preferably none. However, this is also good practice for all ages, and particularly for residents with reduced mobility.

3.2.3 Liveability

Evidently, MDH must be liveable; it must provide a good quality of life for its occupants and help to ensure that residents of the wider neighbourhood have a good quality of life. Table 3.3 summarises the key design criteria for ensuring the liveability of MDH, and these are discussed in greater detail below.

Table 3.3 Key design criteria for ensuring the liveability of MDH.

Liveability: *the development supports a good quality of life for residents and the wider community.*	
Outlook	• Building orientation maximises pleasant views. • Landscaping enhances outlook.
Natural light	• Building orientation and fenestration maximise sunlight year-round.
Visual appeal	• High quality and locally acceptable materials. • Designing for the human scale. • Rubbish facilities not easily visible from the street or dwellings. • Edge plantings and/or private front yards enhance street frontage. • Opportunities for personalisation of dwellings and landscaping.
Privacy	• Private entry, porch and front path for as many dwellings as possible. • Caution when providing access via long, shared access galleries. • Arrange dwellings, windows and private open space to minimise overlooking. • Screened ground level windows and private open space. • Landscape edges and communal open space to enhance privacy. • Opportunities to increase privacy.
Community	• Arrange dwellings to enable but not force neighbourly contact. • Main entrance clearly visible from the nearest public circulation path. • Dwellings open onto and/or lookout onto the street. • Provide communal spaces.

Hobbies	• Provide storage space for gear (e.g. kayaks, skis). • Provide space for hobbies (e.g. workshop, garden shed).
Biophilic design	• Site is located near public green space. • The development has abundant green space and opportunities to connect with nature.
Private open space	• Each dwelling has private open space. • Visually and functionally accessible from inside the dwelling (ideally from the main living room). • Usable size. • Oriented for sun. • Maximise privacy. • Avoid stressors associated with location.
Communal open space	• Interesting landscaping. • Provide a variety of spaces. • Provide a variety of seating types and locations. • Provide opportunities for gardening. • Avoid large, empty paved areas. • Design landscaping to be low-maintenance
Providing for families	• Communal open space provides an unrestricted setting for play. • Private and communal open space is safe for children. • Direct access from private open space into communal open space. • Provide leftover space.
Safety and security	• Fenestration enables informal surveillance of the development and adjacent public spaces. • Avoid blank walled spaces. • Appropriate lighting and security features. • Clear hierarchy of spaces and opportunities for territorial expression

Outlook and sun

An important aspect of liveability is the outlook of dwellings and how much natural light they have; most people wish to have a sunny home with a pleasant outlook, and although the site of MDH determines this to an extent, design can play a big role in improving both. As mentioned above, the site layout and orientation of buildings is one factor, and regarding outlook, another important one is landscaping. Not only is looking out onto green space—either within or adjacent to the development—typically more pleasant than a parking lot or adjacent building, but it also helps to create a sense of space, which is an important aspect of resident satisfaction in MDH (Cooper-Marcus & Sarkissian, 1986). Providing enough sun, and therefore natural light, enhances the sense of space within buildings, is considered to have health and wellbeing benefits, and helps reduce heating demand, as discussed below with respect to environmental performance. A key part of providing enough sun year-round is having windows on two sides (two walls, or a wall and a roof) (MFE, 2012; Ritchie & Thomas, 2009).

Visual appeal

Designing visually appealing MDH is far from a superficial issue; it is an important part of creating MDH that people want to live in and are happy to see in their neighbourhood. There is some overlap between responding to local context and visual appeal, as people's views on a neighbourhood's built character influence what they will find appealing. Consequently, using locally acceptable materials often makes MDH more familiar and appealing (Cooper-Marcus & Sarkissian; Ritchie & Thomas, 2009; Ryan & Smith, 2018). However, there are also general principles that typically make MDH more visually appealing regardless of its materials or how it relates to the built character of the surrounding neighbourhood.

Possibly the most important principle is designing for the human scale. Gehl summarises this as providing good spaces for people "that take into account the possibilities and limitations dictated by the human body" (Gehl, 2010: 33). For instance, people often find large buildings unattractive—"impersonal, formal and cold" (Gehl, 2010: 53), and certainly not a pleasant place to live (Cooper-Marcus & Sarkissian, 1986). As mentioned above, simply having MDH rather than high-rise buildings is part of the solution to this. Although MDH can be a single, 6 storey apartment building, it is generally preferable to have clusters of small buildings, as this makes the perceived density lower, and more acceptable, than the actual density (Cooper-Marcus & Sarkissian, 1986). Designing for the human scale also involves ensuring that individual dwellings or clusters of dwellings are identifiable and/or there is variety in the façade (for instance through different colours, materials or balcony size and location). Whether a development involves a large number of two-storey attached townhouses or a six-storey apartment building, this variety is more appealing than a large number of basically identical dwellings (Auckland Council, 2018; Cooper-Marcus & Sarkissian, 1986; MFE, 2012; Ryan & Smith, 2018).

Landscaping also plays an important role in creating visually appealing MDH. Cooper-Marcus & Sarkissian encapsulate this by saying that "the highest-quality architecture can look stark and un-homelike without the softening effects of planning; conversely, a monotonous or repetitive design can be vastly improved by quality landscaping" (Cooper-Marcus & Sarkissian, 1986: 46). Landscaping should be considered in conjunction with the site layout and building design so that it is effective in softening buildings and improves the outlook from dwellings. More specific features are discussed

below with respect to edges, communal open space and biophilic design. Somewhat related to landscaping is a seemingly small and often overlooked aspect of MDH design: the location of rubbish bins. These need to be easily accessible for all residents, but they also should be screened—by planting, for instance—so that they are not a dominant visual feature from dwellings or the street, which reduces visual appeal for both MDH occupants and passers-by (Cooper-Marcus & Sarkissian, 1986; Ritchie & Thomas, 2009).

It is important to note, however, that too much exterior design control can make MDH less visually appealing. Consequently, it is often beneficial to provide for personalisation, such as the modification of or addition to dwelling exteriors, garages and open space by residents (Cooper-Marcus & Sarkissian). Most people wish to feel that their home is individual, and although variation in façades provides for this to some degree, it does not give people the same sense of ownership or enable self-expression, as they have not chosen the design. This also enables the individuality and organic process of change that is often seen as attractive in traditional suburbs (Cooper-Marcus & Sarkissian, 1986; Ryan & Smith, 2018; Dunbar & McDermott, 2011). Territorial expression encompasses the sense of ownership and self-expression mentioned above; it is the ability for residents to feel and express that their dwelling is home. This can be provided for in a number of ways, such as by having recessed dwelling entrances that allow residents to add seating, plants or decorations, through private yards and opportunities modifying the landscaping of communal open space (Cooper-Marcus & Sarkissian, 1986; Dunbar & McDermott, 2011). Allowing territorial expression is also an important aspect of privacy, as discussed below.

Privacy and community

A major MDH design challenge with respect to liveability is balancing privacy and community; residents should not feel that their home is closed off, but they also need to feel that it provides a sanctuary (Dunbar & Mcdermott, 2011). Cooper-Marcus & Sarkissian argue that although providing opportunities for social interaction is important, "privacy must be established before people will reach out into the community" (Cooper-Marcus & Sarkissian, 1986).

Obviously, a key aspect of privacy is ensuring that dwellings have high-quality construction (for instance, insulation and double glazing) to maximise acoustic privacy. Furthermore, buildings and their windows, as well as private open space such as balconies, should be arranged to minimise direct overlooking. Another key aspect, however, is utilising landscaping to provide additional privacy and a sense of space. Providing some form of screening for ground level windows that look onto communal or public space, for instance, or landscaping the area between dwellings that directly face each other to create a filtered view and a sense of space (CCC, 2014; Cooper-Marcus & Sarkissian, 1986; MFE, 2012).

Entrances are another key consideration when it comes to privacy. Dwelling entrances that provide a clear sense of address through some form of transitional space enable residents to feel that they are in their own home when they reach their doorway. A larger transitional space that is visually separate from the adjacent neighbours even allows residents to sit outside without having to see their next door neighbours (Auckland Council, 2018). Providing for entry personalisation both enables territorial expression and allows residents to make their entrance as private as they wish. Articulated facades (rather than completely flat ones), porches and walls that extend outwards, for example, enable residents to make changes without intruding into communal or public spaces. Residents may add screens, trellises, plantings and so on to increase their privacy (Cooper-Marcus & Sarkissian, 1986).

When it comes to community, the design of MDH can affect both the sense of community among neighbours in a development and in the wider neighbourhood. The starting point for designing well for community is recognising that people have different social needs and preferred ways to interact. Some people delight in having many opportunities to chat with their neighbours and passers-by and as they move in and out of their home, use private or shared open space, or are at the edge of the development. Others may typically be fairly quiet, or even reclusive when at home. To cater for these different needs, MDH should be designed to enable but not force social interaction; those who wish to have casual social interactions with their neighbours can, and those who do not wish to can easily avoid doing so. Additionally, regardless of how social a person is, they generally prefer being able to choose when they meet people, and forcing neighbourly interaction alone is insufficient to create community—a certain degree of compatibility

is needed. This relates to the above point about adequate privacy being a prerequisite of community; various studies have found that where too much contact is forced, residents tend to withdraw from rather than reach out to their neighbours (Cooper et al., 2009; Cooper-Marcus & Sarkissian, 1986; Gehl, 2010).

There are several key considerations regarding neighbourly interaction. One is the arrangement of and access to dwellings. As mentioned above, it is beneficial if there is a transitional space around dwelling entrances to allow some privacy. Consequently, dwellings should not be isolated from each other, but entrances should not face each other without screening, or be located too close to each other along a corridor. Again, private access to each dwelling is preferable, and common accessways should not be shared by a large number of households, as recognition and greeting of neighbours is less likely when the volume of people using it renders them anonymous (Cooper et al., 2009; Cooper-Marcus & Sarkissian, 1986). Communal spaces also provide opportunities for casual neighbourly interaction. This is most likely to occur when residents often walk through communal open space on their way to communal facilities or going in or out of the development. The level of communality in MDH varies from development to development. Some may have many communal facilities and a system for sharing maintenance tasks, but this is not intrinsic to MDH. However, it is often beneficial to provide some communal spaces, such as a workshop, gardening shed or at least a room that is intended as a meeting place. A meeting room provides a neutral space for residents to conduct meetings, a place for teenagers to hang out in, an event space and so on. Other communal facilities enable residents to take part in various hobbies, as well as opportunities for neighbourly interaction (Cooper-Marcus & Sarkissian, 1986).

A particularly important consideration for both neighbourly and neighbourhood community is the treatment of edges: the spaces at the boundary of the private and public realm. Soft edges are not only more visually appealing in residential neighbourhoods, but they also facilitate interaction. At the lowest level of interaction, dwellings should look and/or open out onto both shared and public space—especially streets—so that residents can "sit observing but unobserved" in their living room or yard (Cooper-Marcus & Sarkissian, 1986: 186). Soft edges also enable more active interaction with neighbours and the neighbourhood. Cooper-Marcus & Sarkissian (1986) note that as many people find making initial contact with neighbours easiest while they are

engaging in activities on their home territory, having a small front yard or parking space can facilitate this first interaction, and from there neighbourly interactions in other settings. On the neighbourhood side, Gehl (2010) points out that there is a wealth of studies from around the world arguing that private open space directly outside ground floor dwellings encourage activity and interaction on the street. Indeed, this has become a feature of many MDH design guides (e.g. Auckland Council, 2018; CCC, 2014; Cooper-Marcus & Sarkissian, 1986; MFE, 2012; Ryan & Smith, 2018). Where a front yard is not possible, balconies or transitional spaces around street entrances where people can personalise and sit serve the same purpose (Gehl, 2010).

Open space and biophilic design

A key issue for urban dwellers is access to open space and having opportunities to connect with nature. MDH has less private open space than typical standalone suburban housing, and in apartment buildings not every resident will can have access to a private yard. However, MDH can still provide just as many, and potentially more, opportunities to enjoy the outdoors and connect with nature as standalone housing (Beatley, 2011; Cooper-Marcus & Sarkissian, 1986; Neuman, 2005). To ensure this is achieved, it is important to consider the accessibility public, private and communal open space, and the design of these spaces.

As discussed above, MDH should be located within comfortable walking distance of urban amenities, and in particular, residents should be able to easily access public open space. Each dwelling should also have some private open space, whether this is a yard, balcony, patio, green roof or something else. At least one kind of private open space should be visually and functionally accessible from inside the dwelling, ideally from the main living room, as it is then often used more. The combination of windows or glass doors leading to private open space means any plants can be enjoyed from the inside and children can play there while still being visible to parents. It is vital that private open space is of a usable size; a common fault is balconies being too small to be used for anything other than storage. Additionally, balconies should be located to limit exposure to stressors such as noise and pollution (for instance, balconies should not be over a road

with heavy vehicle traffic) and be as private as possible while still being a pleasant space (Cooper-Marcus & Sarkissian, 1986; MFE, 2012).

The provision of communal open space is also valuable where the site allows it. Once again, the issue of human scale applies to its design; large, relatively empty spaces tend to be unwelcoming and underused. It is best to provide a variety of small spaces, either in the form of one large space landscaped to provide a variety of spaces, or several smaller spaces. Providing a variety of seating types is another important consideration. These elements create communal open space that can meet multiple needs at the same time; young children may play in one area, while adults or teenagers may gather in another, and residents can find a place to relax by themselves (Cooper-Marcus & Sarkissian, 1986; Gehl, 2010). Regarding children specifically, communal open space can potentially be a better play area than the traditional back yard; it may be larger, have a greater variety of spaces within it, and provide more opportunities to meet other children. To facilitate creative play, Cooper-Marcus & Sarkissian (18986) also suggest providing leftover spaces, either by retaining natural features of the site or leaving part of communal open space intentionally less manicured.

Regarding connection with nature, taking a biophilic design approach is essential. In essence, means ensuring that there is an abundance of nature, so that "in the normal course of work and play and life residents feel, see and experience rich nature" (Beatley, 2011: 45). Consequently, it is important to ensure that residents of MDH have access to not only open space generally, but specifically green space. This can be achieved by locating MDH near public parks, ensuring that communal green space is well-landscaped, ensuring that private open space is designed in a way that allows residents to have plants in it, and taking opportunities to provide green space in creative ways—for instance, green roofs and green walls. Beatley (2011) notes that if a biophilic approach is taken, even high housing densities can provide a strong sense of connection with nature. For instance, residents of Greenwich Millennium Village, a development in London, look out onto and can walk to a restored riparian wetland. Similarly, Hammarby Sjostad, a neighbourhood in Stockholm, which was designed so that the old oak trees on and around the site were protected.

Safety and security

Residents should feel that their home and wider neighbourhood is a safe place to be and ensuring this involves more than providing security features as part of dwellings. Designing buildings so that they have soft edges not only encourages community but also makes both shared and public spaces safer through creating informal surveillance. As Gehl says, encouraging people to walk through and spend time in spaces means that "in almost every situation both real and perceived safety will increase" (Gehl, 2010: 98). (Cooper et al., 2009; MFE, 2012). Related to this, it is best to avoid edges of blank walls, as this tends to encourage vandalism and makes spaces feel less safe (Cooper et al., 2009; Gehl, 2020). Additionally, it is vital that there is a clear hierarchy of spaces: private, shared and public. Having the private, shared and public realms clearly demarcated reinforces the ability of people to determine which is which and act appropriately, and residents' sense of security: those to whom the space belongs will think "this is mine", while visitors will think "I am visiting others in their space" (Gehl, 2010). This clarity of hierarchy can be achieved through measures such as ensuring that the distinction between public pedestrian space and shared open space clear (if it is not an enclosed courtyard), and enabling territorial expression (Gehl, 2010; Cooper et al., 2009; Cooper-Marcus & Sarkissian, 1986).

3.2.4 Diversity and flexibility

The design of MDH should be flexible, and there should be diversity not only in how it looks, but also in the households it accommodates. New Zealand design guides typically encompass this under "choice", but diversity is arguably about more than personal choice; it is about creating equitable communities (Birch & Wachter, 2007; Cooper-Marcus & Sarkissian, 1986; Sim, 2019).

Table **3.4** summarises some of the key design considerations in relation to this.

Although some degree of social homogeneity is arguably necessary for a sense of community to develop, having a variety of tenure types, price ranges, dwelling sizes and dwelling types generally creates a more lively development and neighbourhood, prevents the ghettoisation of lower-income households or the isolation of the elderly (Cooper-Marcus & Sarkissian, 1986; Sim, 2019).

Table 3.4 Key design criteria for ensuring that MDH has a flexible design and houses a diversity of residents.

Diversity and flexibility *the development is designed to house a diverse community and be to accommodate changing needs over time.*	
Variety of dwelling sizes and/or types	• Variety of dwelling sizes enables households to move within the same development or neighbourhood as their needs change. • Variety of dwelling types in larger developments. • All dwellings should be equally appealing.

Flexibility of design enables households to move within the development and neighbourhood—and therefore their community—if their current dwelling is no longer suitable. This means incorporating a range of dwelling sizes, and potentially even dwelling types within each development. However, it is important that one type of dwelling is not perceived as categorically superior to another or there is likely to be jealousy and resentment among residents; they should provide equally well for a variety of needs (Cooper-Marcus & Sarkissian, 1986).

3.2.5 Environmental performance

MDH has the potential to have a high environmental performance, enabling its residents to live sustainable lifestyles—for instance, by minimising their energy consumption for heating. Table 3.5 below outlines some of the key considerations to ensure that MDH performs well in this regard.

Carbon emissions can be reduced not only by locating MDH to reduce car-dependence, but also to increase the energy efficiency of buildings. As mentioned above, MDH has the potential to always be more efficient that standalone dwellings due to sharing walls. Beyond this, it is important to take a "fabric first" approach to increasing energy efficiency, which can potentially remove the need for heating dwellings. To this end, buildings should be insulated and constructed to a high standard (to reduce air infiltration), the orientation of buildings and windows should maximise passive solar gain and minimise heat loss, and windows should be at least double glazed. It is also beneficial to encourage cross-ventilation within dwellings by having opening windows on at least two external walls.

Table 3.5 Key design criteria for ensuring that MDH has a high environmental performance.

Environmental performance: *the development has a high environmental performance, so that its residents are able to live sustainable lifestyles.*	
Native biodiversity	• Retain existing established vegetation (especially natives). • Use native plants in landscaping.
Low carbon footprint	• Fabric first approach to reducing energy consumption is taken by ensuring high quality construction. • Enable micro-energy generation.
Climate adaptability	• Dwellings and open space are pleasant year-round.
Water management	• Local rainwater harvesting and reuse. • Minimise impermeable surfaces and provide stormwater ponds.
Food production and waste management	• Provide or enable edible planting in communal areas. • Provide for composting of food waste.

Although heating is often the focus in New Zealand, it is also important to design MDH to work well in heat, as well as other changes in conditions such as extreme winds. Regarding heat, it is useful to enable shading of glazing during summer walls. Micro-energy generation (such as through installing photovoltaic cells) can further contribute to reducing energy consumption (Cooper et al., 2009; Fraker, 2013; Ritchie & Thomas, 2009;).

Design can aid native biodiversity by retaining established vegetation (especially natives) and using native plants in landscaping. Stormwater ponds can also provide an opportunity for creating habitat, as well as a more environmentally-friendly way to manage stormwater (Beatley, 2011). There are also opportunities to harvest and reuse rainwater, and to encourage recycling and composting of food waste by making such facilities easily accessible (Ritchie & Thomas, 2009).

3.3 Conclusion

The criteria outlined in this chapter are not an exhaustive list of considerations when designing MDH. However, they do encompass the key features that MDH should have it is to be both socially and environmentally sustainable, with respect to site design. They are therefore used to select the examples of well-designed MDH presented to survey respondents, a process which is discussed further in Chapter 5.

4. Dunedin's housing and planning context

4.1 Introduction

This chapter discusses the research context with respect to housing in Dunedin. The majority of the chapter will explore the planning context around housing provision, as knowledge of this context is essential for understanding the specific challenges of taking a compact city approach to housing provision in Dunedin. There are two parts to this planning context: the first provides an overview of New Zealand's urban planning framework (Section 4.2) and the second discusses the main planning documents that guide planning for housing in Dunedin (Section 4.3). It should be noted that, as established in the literature review, taking a compact city approach to housing provision means not just prioritising urban intensification but also ensuring this is done *well*. After establishing the planning context, the chapter will outline Dunedin's housing context; it provides some background to the city and discusses its key housing challenges, explaining why debates around the compact city and MDH are particularly relevant in Dunedin (Section 4.4). Finally, the chapter will summarise the extent to which the planning context ensures a compact city approach to addressing Dunedin's housing challenges (Section 4.5).

4.2 New Zealand's urban planning framework

This section looks at New Zealand's urban planning framework, which establishes the wider planning context that specific planning documents relating to urban form and housing provision sit within. Knowledge of this wider context is necessary not only to understand how the various planning documents work together, but also to understand the challenges to planning for urban form and housing provision imposed by the urban planning framework itself. New Zealand's urban framework is guided by three main pieces of legislation, and this section will begin by outlining the key aspects of these with respect to urban form and housing provision, and will then provide an overview and critique of the framework as a whole in terms of how well it ensures a compact city approach to housing provision.

4.2.1 The three main planning statutes

The three statutes that establish New Zealand's urban planning framework are:

- the Resource Management Act 1991 (RMA), which regulates the use of natural and physical resources, including land;
- the Local Government Act 2002 (LGA) which establishes New Zealand's system of local government, including physical infrastructure provision processes; and
- the Land Transport Management Act 2003 (LTMA), which establishes processes for the provision of transport infrastructure and services (NZPC, 2015).

There are many other statutes that are relevant to urban planning and housing provision, such as the Public Works Act 1981, and the increasingly important Climate Change Response Act 2002, under which national direction on climate change mitigation and adaptation is developed (MFE, 2020d). However, the RMA, LGA and LTMA together make up the core of New Zealand's urban planning framework, and it is under these that most planning for housing occurs.

The Resource Management Act 1991

The RMA is integral to planning in New Zealand, as it regulates the use of natural and physical resources, including all land, water, air, soil, minerals, energy, plants, animals and structures in New Zealand's territory (Warnock and Baker-Galloway, 2015). The stated purpose of the Act is to "promote the sustainable management of natural and physical resources." Sustainable management is defined as:

> *"Managing the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural wellbeing and for their health and safety while—*
>
> *(a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*

(b) safeguarding the life-supporting capacity of air, water, soil and ecosystems; and

(c) avoiding, remedying or mitigating any adverse effects of activities on the environment."

(RMA, section 5)

Evidently, urban form and housing fall within the remit of the RMA, as where and what type of housing is built is determined by how land is regulated, and has consequences for other natural and physical resources, as Section 2.3 of the previous chapter established. Therefore, the RMA appears to require sustainable housing provision that considers the wellbeing of both current and future generations. However, it is important to note that the under the RMA, sustainable management means *enabling* people and communities to provide for their *own* wellbeing. This reflects the RMA's "liberal approach to governance": decision-makers under the RMA are not meant to directly plan for wellbeing, but rather "focus on creating the conditions that will allow people and communities to prosper in social, cultural, economic and environmental terms" (Warnock & Baker-Galloway, 2015: 62). As is discussed below in Section 4.2.2, this has created barriers to effective urban planning, particularly when it comes to addressing complex issues such as ensuring that housing is provided in a sustainable way.

The RMA sets up a framework for the sustainable management of resources by establishing the functions of each level of government and a hierarchy of planning documents to enable them to carry out their designated functions. Lower-order planning documents must give effect to higher-order ones, although district plans need only "not be inconsistent" with regional plans. This hierarchy creates a planning system that has guidance from central government but is largely devolved to the local government level; most plan making and implementation is undertaken by regional councils and territorial authorities (district and city councils) (Warnock & Baker-Galloway, 2015). The intention of this was to "ensure that decision-making was undertaken at the closest level to which it was given effect," while still providing an appropriate level of national consistency (Miller, 2011: 27). It is also worth noting that public participation is part of the creation of all plans, but typically increases further down the hierarchy (Warnock & Baker-Galloway, 2015).

At the top of the planning hierarchy is national direction, provided by a collection of central government planning documents. The purpose of these, especially national policy statements (NPSs) and national environmental standards (NESs) is to highlight the most important issues for local authorities to address in their own plans, and improve the consistency of decision-making across the country (Miller, 2011).

Regional planning documents are next in the hierarchy. A key purpose of regional councils is ensuring that a wider view of resource management issues is taken; they are required "to achieve integrated management of natural and physical resources of the region" (RMA, section 30(1)). More specifically, they are responsible for managing water, air and soil, as well as land use "as far as it is affected by or has an effect on these other resources" (Miller, 2011: 48). To achieve this, they must produce a regional policy statement (RPS), which sets the overarching direction for sustainable management in a region. An RPS provides an overview of a region's resource management issues and how they will be addressed but cannot include any legally enforceable rules (although it can create very specific policies such as UGBs). Regional councils may also choose to create one or more regional plans to address specific issues identified in the RPS, which may contain rules (Warnock & Baker-Galloway, 2015).

Territorial authorities have a more limited purpose than regional councils: "to achieve integrated management of the effects of the use, developments or protection of and associated natural and physical resources of the district" (RMA, section 31(1)). Each territorial authority must produce a district plan, which states the objectives for the district and how they will be achieved, including by setting rules for the district. District plans are at the bottom of the planning hierarchy, but they are also where most planning for housing occurs. District plans determine which activities can occur where, and the requirements that must be met for an activity to be allowed. Typically, this involves establishing zones where certain activities are permitted as of right, others require resource consent, and still others are forbidden, and rules that allowable activities must comply with. For instance, building a house in a residential zone is often a permitted activity, provided it complies with rules such as density and height limits; if it does not, resource consent is required (NZPC, 2015).

The Local Government Act 2002

As planning in New Zealand is largely carried out by local authorities, the LGA is a key part of the overall planning framework, and it sets up the functions of local government and its accountability to its communities (MFE, 2020d). The stated purpose of the LGA is "to provide for democratic and effective local government that recognises the diversity of New Zealand communities," and to this end, the Act states the purpose of local government and sets up its powers and processes. This purpose is to enable democratic decision-making and promote the social, economic, environmental, and cultural wellbeing of communities in the present and for the future (LGA, section 10). Additionally, the LGA "promotes the accountability of local authorities to their communities," and provides for local authority involvement in "promoting the social, economic, environmental and cultural wellbeing of their communities, taking a sustainable development approach," (LGA, section 3).

Aside from its role in the urban planning framework, there are several aspects of the LGA that are particularly important to note with respect to housing and urban form. First, the LGA was intended to require local authorities to take a more sustainability-oriented and strategic approach to planning (Miller, 2011). Until this point, local authorities were able to argue that sustainability was not one of their core statutory responsibilities, as it was not part of the previous Local Government Act 1974 (De Freitas & Perry, 2012). This is apparent in section 3 and section 10 of the Act described above: section 3 requires local authorities to take a sustainable development approach to promoting community wellbeing, and section 10 describes a holistic view of wellbeing that contains the three pillars of sustainability and requires local authorities to take a long-term approach to providing for it.

To enable local authorities to achieve their new responsibilities, the LGA also established new planning functions. Most importantly, it requires local authorities to produce a long-term plan (LTP) in consultation with their constituents, which must identify and justify community outcomes for at least ten years into the future and allocate funding for them. The purpose of this was to ensure that local authorities took a long-term view and coordinated resources; although LTPs contain no rules, "they can be used to coordinate plans across a full range of council functions and coordinate the provision of services with parties outside of a council" (MFE, 2010: 76).They therefore have the potential to

help integrate the provision of housing and infrastructure (MFE, 2010). As part of their LTP, local authorities must also adopt an infrastructure strategy, to plan for the maintenance and improvement of physical infrastructure over a thirty-year period. Further, local authorities are required to create annual plans that outline the proposed activities and budget for the year (NZPC, 2015). The LGA therefore creates a stronger imperative for local authorities to ensure that urban form and housing provision are sustainable, and that the public is involved in decision-making on these issues.

The Land Transport Management Act 2003

The third main planning statute in New Zealand is the LTMA. This governs the planning, operation and funding of land transport, and its stated purpose is "to contribute to an effective, efficient and safe land transport system in the public interest" (LTMA, section 3). The LTMA establishes its own hierarchy of transport planning documents. Central government is tasked with creating a government policy statement on land transport to outline the government's desired outcomes and funding priorities over at least ten years. This is given effect to by the national land transport programme, which outlines the transport activities that will receive central government funding over a three-year period (NZPC, 2015). Regional councils are responsible for producing regional land transport plans that also have a ten-year outlook and that must be consistent with the GPS (LTMA, section 14).

4.2.2 The overall urban planning framework

Even from the brief outline of New Zealand's urban planning framework provided above, it is clear that it places a strong emphasis on sustainability and public participation (Warnock & Baker, 2015). This suggests that the framework is well-equipped to ensure a compact city approach to housing provision. However, New Zealand's urban planning framework has a number of limitations when it comes to planning for urban form and housing provision (De Freitas & Perry, 2012; Warnock & Baker, 2015). The following discussion explores some of these limitations in relation to two of the key hallmarks of creating a sustainable compact city: strategic planning and good design. As part of this discussion, it also outlines how the urban planning framework works as a whole.

Strategic planning

As the literature review established, creating a compact city is a complex process that requires multiple issues to be addressed simultaneously. Consequently, it requires strategic planning, including spatial planning, that takes a long-term, integrated approach to planning. This is a challenge for every city, but it has become apparent that effective strategic planning is particularly difficult in New Zealand, in part due to the urban planning framework.

The RMA, LGA, and LTMA were not initially intended to form a single, cohesive urban planning framework, and so the relationship between the various planning documents prepared under each statute is complex. The RMA, LGA and LTMA each have their own purpose and processes, including different timeframes and consultation requirements for plan making, and many issues such as urban growth, climate change and biodiversity are interrelated and stretch across and beyond these three acts. This complexity is exacerbated by the lack of overarching guidance on how the three statutes should work together. (MFE, 2020d). Central government has long been aware of the problems with this complexity; the MFE highlighted them in both their 2010 and 2020 discussion documents reviewing New Zealand's urban planning framework (MFE, 2010; MFE, 2020d). It is also worth pointing out that the failure of the existing framework to enable strategic planning—which is the result of more than the framework's complexity, as discussed below—has resulted in local authorities increasingly turning to non-statutory planning. Unfortunately, this has only served to further complicate the planning framework, creating "what can only be described as a plethora of plans: (Miller, 2011: 94). Further, many of these non-statutory planning documents contain objectives and policies that cannot be fulfilled, because the actual statutory vehicles for implementing them are not set up to do so, leading to communities having unrealistic expectations about what local government can achieve (Miller, 2011).

Another barrier to effective strategic planning is what the MFE describes as the "lack of vertical integration" within the planning hierarchy, which refers to its failure to ensure consistency through the hierarchy of planning documents (MFE, 2020d: 226). The MFE primarily attributes this to issues such as policies that do not help achieve stated objectives being introduced for political reasons, local authority resistance to changing plans out of fear of having to relitigate previously settled matters, or LAs addressing

important but contentious issues through objectives and policies but failing to actually implement them through rules or other measures (MFE, 2020c). However, Miller (2011) emphasises that there is a greater problem: the absence of national direction on key issues.

The RMA sets up the framework for the sustainable management of New Zealand's natural and physical resources but provides very little guidance on what that should look like in practice. The intention was that central government would provide this guidance on issues of national significance, but in reality, very little national direction has been provided. This is especially true for NPSs; The first New Zealand Coastal Policy Statement 1994 was produced fairly quickly, but there were no further NPSs until the National Policy Statement on Electricity Transmission 2008 (Miller, 2011). Today, there are still only five operative NPSs, and there was no national direction at all on urban form and housing provision until the introduction of the National Policy Statement on Urban Development Capacity 2016 (NPS-UDC) (NZPC, 2017). The absence of national direction has left local authorities with a lack of knowledge and certainty about how to approach many key issues, especially urban issues, (Miller, 2011). Therefore, while local authorities often do not actually implement objectives and policies that address controversial issues—such as urban form—national direction on these kinds of issues would go some way to solving this by providing them a stronger mandate to do so.

Possibly the most fundamental barrier to effective strategic planning—greater than the complexity of the urban planning framework and the lack of national direction on urban issues—is that there is not actually a strong mandate for it. Section 4.2.1 highlighted that the RMA takes a liberal approach to government, seeking to reduce the government in managing New Zealand's resources. This is a consequence of the RMA being heavily influenced by concepts that were on the rise when it was being conceived; these include not only sustainability and public participation, but also neoliberalism (Miller, 2011; Warnock & Baker-Galloway, 2015). Miller (2011) argues that the tension between achieving sustainability and reducing government regulation at the heart of the RMA helps explain some of the difficulties that local authorities have faced as they attempt to plan under it. The assumption of the neoliberal approach to decision-making is that enabling individuals to pursue their own self-interested ends will have positive effects downstream for their wider community and the environment. However, Miller argues that

this is "the complete opposite of the concepts of community, collaboration and a strong role for government" that planning is founded upon (Miller, 2011: 86). Evidently, planning is still required under the RMA, but there is no mandate for strategic planning as it exists overseas, especially spatial planning. The MFE has recognised that the move away from prescribing outcomes may have contributed to local authorities' frequent failure to take a long-term approach to planning; if local authorities cannot specify outcomes and how they are to be achieved, how can they plan strategically? (MFE, 2020d).

An example of the difficulties that have resulted from this liberal approach to governance is the struggle of LAs to address regional-scale issues. Under the RMA, regional councils clearly are not meant to focus on urban planning, but housing growing urban populations is a region-wide issue. Nevertheless, some regional councils have attempted to address it in their RPSs and/or regional plans, as it does affect land with respect to soil, water and air. Another example is the difficulty of integrating the provision of housing and transport infrastructure; not only does the complexity make this a challenge, but these two functions are the responsibilities of territorial authorities and regional councils, respectively (Miller, 2011). As the literature review discussed, integrating these is a particularly important part of creating a compact city, as not doing so can lead to negative effects such as traffic congestion and increased air pollution.

Finally, exacerbating the above barriers to strategic planning is the absence of the urban in the RMA. Although planning under the RMA affects cities and their inhabitants, the RMA does not explicitly address urban issues at all—a significant change from its predecessor, the very urban-centric Town and Country Planning Act 1977. In combination with the absence of national direction on key urban issues until the NPS-UDC, this created a knowledge vacuum with respect to urban planning (MFE, 2020d; Miller, 2011;). Miller argues that the uncertainty around the role of planners in the RMA era, combined with the lack of national direction on urban issues left local authorities "with no real remit to be proactive in urban issues, and most retreated to the relative safety of policing the intricacies of suburban development" (Miller, 2011: 90). In other words, there has been a significant lack of proactive planning for anything urban, including school sites and housing demand (Miller, 2011). Prior to the introduction of the NPS-UDC, urban planning was undertaken primarily under the LGA and LTMA. In fact, as mentioned in Section 4.2.1, the requirement that local authorities produce LTPs was an attempt to encourage a more

strategic approach to planning. Overall, this seems to have been unsuccessful, in no small part due to the primary planning statute—the RMA—not providing for such an approach, and the complexity of the urban planning framework. Together, the complexity of the urban planning framework, the lack of a mandate for strategic planning, especially regarding cities, and the lack of national direction on urban issues make it very difficult for local authorities to take a compact city approach to housing provision, as this requires a proactive, long-term and integrated approach to planning.

Ensuring good design

Ensuring good design was another aspect of creating a compact city that emerged as especially important in the literature review, as good design is pivotal to ensuring good outcomes. Urban design was not emphasised in New Zealand's pre-RMA planning legislation, and over time, design concerns have increasingly become the purview of architects, with New Zealand planners primarily influencing design by setting performance standards (Miller, 2011). However, the last twenty years have seen a renewed interest in urban design, and a number of attempts to make this a concern for planners, although the RMA's failure to address urban issues and the lack of a mandate for prescribing outcomes has made this challenging (Higgins, 2010; Miller, 2011). In 2002, for instance, the MFE published *People, Places, Spaces: A Design Guide for Urban New Zealand*, which was the first attempt to adapt international design concepts to the New Zealand context. Unfortunately, as they were not connected to any legislation they therefore had no statutory implementation mechanism, they merely provided "good advice" (Miller, 2011: 97). In 2005, the MFE launched the New Zealand Urban Design Protocol (NZUDP), which provided some more specific guidance, outlining six characteristics of successful cities, and seven essential principles of good urban design (the "7Cs") (see Table 4.1).

The NZUDP is another non-statutory guideline. Local authorities and other organisations can sign the Protocol, and each signatory appoints an urban design champion who is tasked with advocating for good urban design in their organisation. As of 2017, there were 185 signatories, including most local authorities (MFE, 2017), and research does suggest it has had a positive impact on urban design in New Zealand. In particular, it has

raised awareness of the importance of urban design, improved the capacity of planners in relation to urban design, and highlighted shortcake of skills and resources in this field (Higgins, 2010; Witten et al., 2011).

Nevertheless, there is no escaping the fact that the NZUDP has no legal force. Furthermore, while the principles laid out by the Protocol, especially the 7Cs, were "a strong aspirational start nationally…there is a need to develop more rigour and detailed guidance to assist local implementation" (Higgins, 2010: 19). The NZUDP does not address specific elements of design, especially housing and neighbourhood design, in the way that overseas design codes do, integrating broader design principles with requirements akin to performance standards (Miller, 2011). The need for more specific guidance is exemplified by the Hutt City Council's attempt to define "high-quality design": the council noted that there is no definition of this in the RMA or their own district planning documents. Their RPS only directed them to the 7Cs, which provided no greater clarity (Hutt City, 2019).

The MFE did publish "Medium-density housing: case study assessment methodology" in 2012, which was intended to provide a tool to assess the quality of MDH, but again this has no legal weight (MFE, 2012). Since the publication of this methodology, central government has effectively been silent on the issue of urban design; while a NPS on urban design was being considered, this has not yet come to pass, and it is no longer listed as in development by the MFE (MFE, 2020a). This is unfortunate as an NPS would have ensured a stronger focus on urban design and greater national consistency on key design principles (Higgins, 2010; Miller, 2011). It is also worth noting that aside from the work of Higgins (2010), Miller (2011) and Witten et al. (2011), there has been little research into the effectiveness of the Urban Design Protocol or the MDH case study methodology. However, local authorities have been attempting to create their own design guides that specifically addressing urban intensification and MDH (e.g. Auckland Council, 2018; CCC, 2014; Hutt City, 2019), but these all provide non-statutory guidance. Stronger guidance is needed to ensure that MDH is well-designed and the benefits of a compact urban form are realised.

Table 4.1 The New Zealand Urban Design Protocol's six characteristics of successful cities and seven principles of good urban design (from MFE, 2005).

The six characteristics of successful cities	The seven principles of good urban design
1. Competitive places that thrive economically and facilitate creativity and innovation.	1. Context: seeing buildings, places and spaces as part of the whole town or city.
2. Liveable places that provide a choice of housing, work and lifestyle options.	2. Character: reflecting and enhancing the distinctive character, heritage and identity of our urban environment.
3. A healthy environment that sustains people and nature.	3. Choice: ensuring diversity and choice for people.
4. Inclusive places that offer opportunities for all citizens.	4. Connections: enhancing how different networks link together.
5. Distinctive places that have a strong identity and sense of place.	5. Creativity: encouraging innovative and imaginative solutions.
6. Well-governed places that have a shared vision and sense of direction.	6. Custodianship: ensuring design is environmentally sustainable, safe and healthy.
	7. Collaboration: communicating and sharing knowledge across sectors, professions and with communities.

4.3 Planning for a compact Dunedin

This section examines the main planning documents that guide planning for housing in Dunedin at the national, regional and local government levels. These include plans prepared under the RMA, LGA and non-statutory plans related to urban form and housing provision; a detailed evaluation of the transport plans produced under the LTMA is beyond the scope of this research. The planning documents that are the focus of the following discussion are:

- the National Policy Statement on Urban Development Capacity 2016 (NPS-UDC) (MFE, 2016b),
- the National Policy Statement on Urban Development 2020 (NPS-UD) (MFE, 2020b),
- the Partially Operative Otago Regional Policy Statement 2019 (ORPS) (ORC, 2019);
- Dunedin towards 2050—a Spatial Plan for Dunedin (SPD) (DCC, 2012), and,
- the Dunedin Second Generation District Plan (2GP) (DCC, 2019d).

4.3.1 National direction

The NPS-UDC was the first piece of national direction that specifically addressed urban issues, and was introduced in 2016, in response to New Zealand's growing affordability crisis. When the NPS-UDC was reviewed, the MFE determined that it was not sufficient to achieve the outcomes they were seeking for urban environments and introduced the new NPS-UD, which came into effect in July 2020 (MFE, 2020b; MFE, 2020c). Although the NPS-UDC has been replaced, it has shaped the current local government response to Dunedin's housing challenges and is therefore briefly discussed here as well as the NPS-UD.

The National Policy Statement on Urban Development Capacity 2016

The NPS-UDC recognised that urban areas should be "well-functioning" (MFE, 2016b: 3) and to this end, focused on ensuring that local authority planning:

- enables urban areas to grow and change in response to the changing needs of their communities and future generations; and
- provides enough space for their populations to happily live and work, through either urban intensification or urban expansion.

Although the NPS-UDC addressed both business and residential development capacity, it was particularly concerned with improving housing affordability (MFE, 2016a; MFE, 2016b). Consequently, the main aim of the NPS-UDC was to ensure that planning enables housing supply to meet demand, with demand including not only the total number of dwellings, but also attributes such as dwelling type, location and price. Following the recommendations of the New Zealand Productivity Commission (NZPC), the NPS-UDC sought to achieve this by reducing planning constraints on development, under the assumption that a key driver of New Zealand's declining housing affordability is a lack of development opportunities, and that providing excess capacity will ensure that supply meets communities' demand at lower prices (NZPC, 2015; MFE, 2016b).

To help local authorities achieve its aims, the NPS-UDC sets out objectives relating to the desired outcomes of planning decisions and encouraging planning that responds to evidence, takes a long-term view, and is integrated and coordinated. The NPS-UDC also

includes policies, and while the objectives applied to all urban areas, there were three categories of policies: those that applied to all urban areas, those that applied to medium-growth urban areas, and those that applied to high-growth urban areas, so local authorities responsible for urban areas with greater growth pressures had more direction. Dunedin was categorised as a medium-growth urban area under the NPS-UDC (Stocker, 2019).

A key policy that applied to all urban areas was PA1: local authorities shall ensure there is sufficient housing and business land development capacity to meet demand, according to the requirements in Table 4.2 below. This encouraged LAs to take a long-term approach to urban planning and to integrate housing and infrastructure provision, as it required the provision of feasible (meaning commercially viable) and infrastructure-supported development capacity for thirty years into the future. Local authorities with a medium- or high-growth urban area in their jurisdiction were also required to provide an additional margin of feasible development capacity above projected demand, to factor in the proportion of capacity that may not be developed (PC1).

Table 4.2 Development capacity requirements under Policy A1 of the National Policy Statement on Urban Development Capacity.

Timeframe	Development capacity requirements
Short term (3 years)	Development capacity must be feasible, zoned and serviced with development infrastructure.
Medium term (3–10 years)	Development capacity must be feasible, zoned and either: serviced with development infrastructure, or the funding for the development infrastructure required to service that development capacity must be identified in a LTP identified under the LGA.
Long term (10–30 years)	Development capacity must be feasible, identified in relevant plans and strategies, and the development infrastructure required to service it must be identified in the relevant infrastructure strategy under the LGA.

Policies PB1–PB7, which applied to local authorities responsible for medium- or high-growth urban areas, were also particularly important. These set out requirements to ensure that planning was evidence-based and responsive to change, including frequent monitoring of market indicators, and the preparation of a housing and business development capacity assessment (HBA) every three years. The key purpose of the HBA was for local authorities to identify whether they were providing sufficient development capacity as per PA1 and any other policies that applied (e.g. PC1). Local authorities were

also encouraged to publish their findings. The housing capacity assessment discussed in Section 4.4.2 was the first HBA prepared for Dunedin.

A requirement that applied to high-growth urban areas (and that local authorities responsible for medium-growth urban areas were encouraged to give effect to) was the preparation of a future development strategy (FDS) according to policies PC12–PC14. An FDS was meant to identify, at a broad scale, where and when development capacity would be provided over the long term, through urban expansion and urban intensification. It also had to be coordinated with the relevant LTP and infrastructure strategy and could be incorporated into planning documents prepared under other legislation, or non-statutory documents. This was the first attempt by central government to institute any requirement for the spatial planning of cities.

The National Policy Statement on Urban Development 2020

The NPS-UD has a broader remit than the NPS-UDC, addressing not only urban development capacity, but also other matters that contribute to well-functioning urban environments. The NPS-UDC only mentioned the significance of well-functioning urban environments in its preamble. However, Objective 1, the core aim of the NPS-UD, is: "New Zealand has well-functioning urban environments that enable all people and communities to provide for their social, economic and cultural wellbeing, and for their health and safety, now into the future." The NPS-UD also provides more guidance on what this actually means, by setting out the minimum requirements for a well-functioning urban environment (Policy 1).

The NPS-UD introduces a new three-tier system to categorise urban areas, and once again more policies—and more stringent policies—apply to the largest and fastest growing urban areas (tier 1). Under this system, Dunedin is a tier 2 urban area, which is equivalent to its previous categorisation as a medium-growth urban area. The NPS-UD also provides stronger direction to local authorities on a number of issues, and those most relevant to enabling a compact city approach to housing provision in Dunedin are discussed below.

First, urban intensification is a major theme in both the NPS-UD itself, and in the MFE's introductory guide to the policy statement (MFE, 2020b; MFE, 2020c). Objective 3

requires local authorities to enable intensification in areas of high demand or access. In tier 1 urban environments, this means that RPSs and district plans must enable building heights of at least six storeys in and near city and metropolitan centres, as well as near existing and planned rapid transit stops (Policy 3). In other parts of tier 1 urban environments, and for all other urban environments, RPSs and district plans must enable building heights and density of urban form that reflect the relative demand for use and the level of accessibility by existing or planned public transport (Policies 3(d) and 5). Additionally, Policy 11 removes the ability of district plans to set minimum car parking requirements (with the exception of accessibility car parks), and Clause 3.38 states that any minimum car parking requirements in existing plans must be removed, making it easier to increase housing density. Some parts of Policy 1 could also be seen as supporting a compact urban form; it states that a well-functioning environment should not only meet demand for housing (in terms of dwelling type, location and price), but that it should have good accessibility for all people between destinations, including through public or active transport (Policy 1(c)) and support reductions in greenhouse gas emissions (Policy 1(e), and also Objective 8). These attributes suggest a reduction in car-dependency, which a compact urban form would facilitate.

Interestingly, Policy 6 addresses the issue of community opposition to increasing housing density. It seeks to enable urban environments and their amenity values to change over time, including when this occurs as a result of increasing housing densities. In particular, Policy 6(b) states that changes to an area cannot be considered an adverse effect in themselves, and although such changes may detract from the amenity values enjoyed by some people, they may have a positive effect on amenity values appreciated by other people, communities and future generations. This gives local authorities a stronger mandate to overcome arguments against increasing housing density that are based on changes to neighbourhood character, if there is evidence that doing so will have long-term benefits.

The NPS-UD also recognises that strategic planning plays an important role in creating well-functioning urban environments and is intended to enable better strategic planning, including spatial planning. Feedback from local authorities on how FDSs worked under the NPS-UDC was that the timing of their preparation did not coincide well with the preparation of other planning documents, and there was considerable confusion over

their role in the wider planning framework and how to implement them. Central government has recognised that this second problem is related to the absence of a spatial planning framework in New Zealand, and this is something that is being investigated as part of the current review of the RMA. In the meantime, the government hopes that alterations to the FDS provisions in the NPS-UD will go some way towards developing a framework for spatial planning (MFE, 2020c; MFE, 2020d).

Part 3, Subpart 4 of the NPS-UD contains the FDS provisions. One of the key changes from the NPS-UDC is that now local authorities with either a tier 1 or tier 2 urban environment in their jurisdiction must prepare an FDS every 6 years and update it every 3 years, either at the same time as or to inform the upcoming LTP. Another is that as well as the locations of development capacity, an FDS must identify the locations for supporting infrastructure and any development constraints, such as natural hazards or protected areas. The relationship between FDSs and other planning documents is also clarified: local authorities "must have regard to" the relevant FDS when preparing or changing RMA planning documents, and they are "strongly encouraged" to use their FDS to inform LTPs, infrastructure strategies, regional land transport strategies and any other relevant planning documents (Clause 3.17). Clause 3.18 requires local authorities to also prepare an FDS implementation plan, updated annually, although the MFE has yet to publish guidance on the purpose and contents of this.

The NPS-UD also seeks to improve strategic planning by changing some of the requirements relating to HBAs, although the essence of them remains the same. The HBA provisions are under Part 3, Subpart 4, and a key change is that an explicit part of the purpose of an HBA is to inform RMA plans, FDSs and LTPs. There is also an attempt to instil a more strategic approach to district planning; district plans for all urban environments are required to provide objectives that describe the expected outcomes for each zone over the plan's lifetime and beyond, and policies and rules must be consistent with these identified outcomes (Clause 3.35).

The NPS-UD does facilitate a compact city approach to housing provision more than the NPS-UDC, which provided effectively no guidance on urban form. Nevertheless, the focus of both policy statements is on increasing housing supply through urban expansion, and the decision of whether urban expansion or urban intensification should be prioritised is left to local authorities. As the Parliamentary Commissioner for the Environment

observed in their submission on the NPS-UD, the policy statement saying that housing can be provided through either urban intensification or urban expansion "provides no guidance at all" (Upton, 2019: 4). In fact, the Commissioner argues that as the current planning context reinforces the still-dominant preference for standalone suburban housing—for instance, the social and environmental costs of car dependency are largely unaccounted for, and district plans tend to encourage low-density housing—providing no guidance without changing existing policy will encourage urban expansion and discourage urban intensification (Upton, 2019).

The NPS-UD does go some way towards dealing with this by removing minimum parking requirements enabling greater density in areas of high demand. However, for all non-tier 1 urban environments, only being required to enable greater density in areas of high demand and accessibility by public transport does not ensure a compact city approach to housing provision. In cities such as Dunedin, demand for inner-city living is not particularly high compared to the suburbs and the entire city has poor public transport (Early et al., 2015; Stocker, 2019). In other words, the NPS-UD only requires a reactive approach based on existing preferences rather than a proactive one that acts on the body of research showing the advantages of a more compact urban. This is unsurprising, given the lack of mandate for prescribing outcomes under New Zealand's planning framework, but it is also likely create further urban expansion rather than compact cities.

The provisions relating to strategic planning are also a positive step forward, particularly the improved coordination of FDSs with other planning documents, and the implementation plan may help bridge the gap between high-level spatial objectives and what happens on the ground, which has been a challenge for New Zealand cities (Witten et al., 2011). It is also important to acknowledge that only so much can be done by an NPS within the confines of New Zealand's planning framework. Nevertheless, FDSs still do not allow spatial planning to occur in the way that it does overseas. They do not enable local authorities to determine exactly what kinds of development go where and when and ensure an integrated approach to planning that ensures the provision of all kinds of infrastructure—social and green, as well as physical—is coordinated with future development (Beatley, 2000; Miller, 2011).

4.3.2 Regional planning documents

Although a number of regional councils now address how urban growth should be accommodated in their LTPs (Witten et al., 2011; Howden-Chapman et al., 2017), the ORC has not yet done so. Consequently, the only piece of regional policy that has any bearing on housing provision and urban form is the RPS, which is discussed below.

Otago Regional Policy Statement

The current RPS for Otago is the ORPS, which has been mostly operative since January 2019. This contains a number of provisions that support a compact city approach to housing provision in Dunedin, with the most significant being Objective 4.5 and its accompanying policies (Table 4.3). Under this objective, the planning for urban growth and development is identified as a key issue for Otago, as not doing so can lead to the overburdening of infrastructure and services, loss of productive land, and overall have a negative effect on communities. It also recognises the importance of the quality of the urban environment, directly linking urban design to environmental, social and economic outcomes.

Consequently, Objective 4.5 seeks to ensure that urban growth and development occurs in a strategic and coordinated way, and that development is well-designed. Policies 4.5.1(a)–(d) specifically relate to ORC's requirements to provide sufficient development capacity under the NPS-UDC. The rest of Policies 4.5.1 and 4.5.2, together with Policy 5.3.1(c)—managing activities in rural areas to minimise the loss of significant soils—provide a fairly strong mandate for a compact urban form. This is strengthened further by the ORPS requiring territorial authorities to implement these policies by establishing an UGB if necessary and ensuring that this contains sufficient capacity to accommodate twenty years of growth (Method 4.1.13). Policies 4.5.2–4.5.6 address the need for the integration of planning for land use and infrastructure, and for development to be well-designed so that the impact of homes and urban areas on the environment is minimised and they are good places to live.

Table 4.3 Key objectives and policies in the Partially Operative Otago Regional Policy Statement 2019 relevant to urban form and housing provision in Dunedin.

Objective 4.5 Urban growth and development is well-designed, occurs in a strategic and coordinated way, and integrates effectively with adjoining urban and rural environments.	
Policy 4.5.1	**Providing for urban growth and development** Provide for urban growth and development in a strategic and coordinated way, in including by: a) Ensuring future urban growth areas are in accordance with any future development strategy for that district. b) Monitoring supply and demand of residential, commercial and industrial zoned land; c) Ensuring there is sufficient housing and business land development capacity available in Otago; d) Setting minimum targets for feasible capacity in high urban growth areas in Schedule 6. e) Coordinating the development and the extension of urban areas with infrastructure development programmes, to provide infrastructure in an efficient and effective way. f) Having particular regard to: i. providing for rural production activities by minimising adverse effects on significant soils and activities which sustain food production i. minimising competing demands for natural resources; ii. maintaining high and outstanding natural character in the coastal environment; outstanding natural features, landscapes and seascapes; and areas of significant indigenous vegetation and significant habitats of indigenous fauna; iii. maintaining important cultural or historic heritage values; iv. avoiding land with significant risk from natural hazards. g) Ensuring efficient use of land. h) Restricting urban growth and development to areas that avoid reverse sensitivity effects unless those effects can be adequately managed. i) Consolidating existing coastal settlements and coastal urban areas where this will contribute to avoiding or mitigating sprawling or sporadic patterns of settlement and urban growth
Policy 4.5.2	**Integrating infrastructure with land use** Achieve the strategic integration of infrastructure with land use, by undertaking all of the following: a) Recognising and providing for the functional needs of infrastructure; b) Locating and designing infrastructure to take into account all of the following; i. Actual and reasonably foreseeable land use change ii. The current population and projected demographic changes iii. Actual and reasonably foreseeable change in supply of, and demand for, infrastructure services iv. Effects on the values of natural and physical resources v. The effects of climate change on the long-term viability of that infrastructure c) Coordinating the design and development of infrastructure with land use change in growth and redevelopment planning.
Policy 4.5.3	**Urban design** Design new urban development with regard to: a) A resilient, safe and healthy community; b) A built form that relates well to its surrounding environment c) Reducing risk from natural hazards d) Good access and connectivity within and between communities e) A sense of cohesion and recognition of community values f) Recognition and celebration of physical and cultural identity, and the historic heritage values of a place

	g) Areas where people can live, work and play h) A diverse range of housing, commercial, industrial and service activities i) A diverse range of social and cultural opportunities
Policy 4.5.4	**Low impact design** Encourage the use of low impact design techniques in subdivision and development to reduce demand on stormwater, water and wastewater infrastructure and reduce potential adverse environmental effects.
Policy 4.5.5	**Warmer buildings** Encourage the design of subdivision and development to reduce the adverse effects of the region's colder climate, and higher demand and costs for energy, including maximising passive solar gain.

Although the ORPS only became operative in January 2019, in November 2019 the Minister for the Environment recommended that the ORC prepares another RPS that is in place prior to the development of the new Land and Water Regional Plan, in 2022. Consultation for this is already underway, and the ORC intends to have its new RPS notified by the end of 2020 (ORC, 2020). The report released on the review so far suggest that the new RPS will focus even more strongly on limiting urban expansion. Nine draft significant resource management issues have been identified through consultation, including climate change, urban growth, and biodiversity loss. In particular, the consultation process found that there was strong community support for better investing in public transport to reduce car-based emissions and tighter control on urban development, especially in terms of preventing development on productive and flood-prone land, and "reducing urban sprawl in favour of high-density urbanised areas" (ORC, 2020: 4). Overall, the ORC provides quite a strong mandate for taking a compact city approach to Dunedin's housing provision. The ORPS requires that sufficient housing to accommodate urban growth is provided in a way that minimises urban expansion, and that this should be well-executed in terms of integration with infrastructure provision and design, and the forthcoming RPS likely to strengthen these provisions.

4.3.3 District planning documents

The DCC's is that Dunedin is one of the world's great small cities, and it has developed a strategic framework that guides decision-making towards achieving this vision (Figure 4.1). The framework contains eight non-statutory plans that outline long-term outcomes for Dunedin, and the key priorities for resources. The LTP then outlines—within the parameters of the financial strategy—the activities that the DCC will carry out to deliver

the established priorities. Underpinning this framework are the principles of respect for the Treaty of Waitangi and sustainability, with the latter referring to the sustainable development approach required under the LGA, although the DCC is currently working on developing a more comprehensive sustainability framework as mentioned in the literature review (DCC, 2020a; DCC 2020b). It is important to note that with the exception of the LTP (which includes the infrastructure strategy) and financial strategy, the planning documents that make up the strategic framework are all non-statutory, although they respond the statutory planning context. The plans most relevant to the issues of housing provision and urban form are the SPD and the 2GP, which are discussed in detail below. The current LTP for 2018–2028 says only that there is a need for more housing options as Dunedin's population ages, and to improve the city's public transport and pedestrian networks. It includes no detail on how the DCC intends to balance urban expansion with urban intensification over the next ten years or ensure that this is done well (DCC, 2020a).

Figure 4.1 The Dunedin City Council's strategic framework.

Dunedin Towards 2050—A Spatial Plan for Dunedin

Introduced in 2012, the SPD is Dunedin's first spatial plan and sets out principles, strategic directions, policies and actions that together form the strategic direction for Dunedin's growth out to 2050. It is primarily concerned with how urban form and design can help achieve its stated directions, and therefore the overall vision for the city. To this

end, it also provides maps that designate areas for residential, commercial and industrial activities, and where physical infrastructure is needed. Like an FDS, however, it is not an example of spatial planning as this is done as part of strategic planning overseas. The SPD covers the whole of Dunedin at a high level and provides more detailed direction for Dunedin's main urban area and townships, although it is a non-statutory plan and therefore carries no legal weight.

The SPD has two overarching strategic directions: a liveable city, and an environmentally sustainable and resilient city. These are supported by another four strategic directions: a memorable and distinctive city, a vibrant and exciting city, an accessible and connected city, and a city that enables a prosperous and diverse economy. The SPD was where these directions were first articulated, but they have since become a key part of the DCC's strategic framework so that decision-making is more consistent. Under each of these strategic directions are objectives and policies that relate in some way to housing provision, and the most important ones are discussed here.

Objectives LIV9 and VIB2 encourage an increase in housing density, particularly in the city centre and other neighbourhood centres. LIV9 is that Dunedin has a range of housing options that provide for the population's diverse needs, and specifically mentions the importance of enabling ageing in place, and of having a broad range of dwelling types. VIB2 seeks to ensure that the inner city is "a vibrant centre for activity and a focal point for urban life", supported by a hierarchy of neighbourhood centres. Policy VIB2(e) encourages higher-density housing and mixed-use development around centres as a way of achieving this. Further, Objective ACCESS 4 is that Dunedin's transport system enables sustainable transport choices and reduced dependence on oil for transport, and ACCESS 6 is that Dunedin's urban form and design make the city highly accessible. Policies under both these objectives encourage higher-density housing where accessibility is high—due to proximity to the inner city or public transport routes, for instance—or improved transport infrastructure can be provided. Policies ACCESS6(a) and MEM2(e) seek to ensure that an increase in housing density is well-executed by integrating land use and transport planning and managing its potential visual, amenity and environmental effects.

There is also an overall urban form objective: that Dunedin is a compact city with resilient townships. Some key policies under this objective are the establishment of a UGB and

the prioritisation of urban intensification within it rather than urban expansion, including through mixed-use development in the inner city and increasing housing densities in other appropriate locations. Urban expansion is to only be considered when further urban intensification is considered "inappropriate or unachievable". The choice of the word "inappropriate" suggests that an important part of the decision to grow up or out will be community acceptance; if increasing housing density is deemed inappropriate, it will not occur. Further, when urban expansion does occur, subdivision design and dwelling type are to use land efficiently, potentially suggesting the possibility of MDH as part of new suburbs.

The SPD includes an action plan to support the implementation of its objectives and policies, and a key action with respect to housing provision and MDH is the development of a Design Guide for MDH (INFO9). This is intended to promote improved environmental performance and residential amenity (both private and at the public-private interface), including through low-impact design (such as by increasing the area of permeable surfaces), the provision of areas for food production, and design which reflects Dunedin's architectural traditions and character.

Second Generation District Plan

The 2GP is Dunedin's second district plan and has had legal effect since November 2018; this means both the rules of the 2GP and the District Plan 2006 apply, although any 2GP rules not subject to appeal are considered operative, replacing any corresponding rules in the 2006 District Plan. Consequently, this section will discuss only the 2GP.

The strategic directions of the 2GP address key issues for Dunedin and establish the overall management approach of the Plan. With respect to enabling a compact city approach to housing provision, several of the strategic directions, and their accompanying objectives and policies are particularly relevant, and are summarised in Table 4.4. Most important are Strategic Direction 2.2, which establishes sustainability as a priority for Dunedin, and Objective 2.2.4 and its policies. These policies recognise the role compact urban form plays in achieving urban sustainability and therefore the need to prioritise urban intensification over urban expansion, as well as the value of promoting residential development in areas in the Dunedin's inner city and neighbourhood centres.

Objective 2.2.5 and Policy 2.2.5.3 reinforce this by recognising the importance of designing new developments so that they perform well environmentally and encouraging the replacement of old housing stock with new MDH.

The 2GP also recognises that there are social benefits to Dunedin having a compact urban form. Strategic Direction 2.4, and particularly Objective 2.4.1, recognise that Dunedin's compact and accessible form is a key part of what makes the city appealing to its residents and visitors, while Strategic Direction 2.6 and Objective 2.6.1 emphasise the importance of having a range of housing choices. Policy 2.6.1.2 specifically provides for building more MDH, as well as family flats, to allow Dunedin's growing population of older residents to access lower-maintenance housing in their communities. Objective 2.6.2 and Policy 2.6.1.1 link urban intensification to the DCC's requirements to provide sufficient residential development capacity under the NPS-UDC, stating that capacity should be provided in accordance with the objectives and policies that seek to ensure Dunedin maintains a compact city.

There are also provisions to help ensure that urban intensification is executed well. Policy 2.4.1.7, for instance, seeks to ensure that Dunedin is easy to navigate and travel across, by not only limiting urban expansion, but also requiring new housing developments to plan for how they will enable connectivity with the wider city through a variety of modes of transport. Policy 2.6.1.2 seeks to ensure that new housing developments are good places to live, by requiring design that encourages walking and allows residents to have access to key community services and amenities. Strategic Direction 2.7 and Objective 2.7.1 and its accompanying policies could be interpreted as supporting a compact city approach to housing provision by stating that the public cost burden of infrastructure should be minimised. As discussed in the literature review, a compact urban form can reduce infrastructure costs. These policies also help to integrate housing and infrastructure provision, which is key to creating a sustainable compact city.

Table 4.4 The strategic directions (and associated objectives and policies) of Dunedin's Second Generation District Plan that are most relevant to urban form and housing provision.

Strategic direction 2.2 ***Dunedin is Environmentally Sustainable and Resilient***	
Objective 2.2.4	**Compact and accessible city** Dunedin stays a compact and accessible city with resilient townships based on sustainably managed urban expansion. Urban expansion only occurs if required and in the most appropriate form and locations.
Policy 2.2.4.1	Prioritise the efficient use of existing urban land over urban expansion.
Policy 2.2.4.2	Encourage new residential housing development in the central city and larger centres.
Policy 2.2.4.3	Ensure expansion of urban areas occurs in the most appropriate locations and only when required.
Objective 2.2.5	**Environmental performance** Development in the city is designed to reduce environmental costs and adverse effects on the environment as much as practicable, including energy consumption, water use and the quality and quantity of stormwater discharge.
Policy 2.2.5.3	Encourage improvements to the environmental performance of new housing by: (b) encouraging new medium-density housing in parts of the city that have old housing stock that is not protected for its heritage values.
Strategic direction 2.4 ***Dunedin is a Memorable City with a Distinctive Built and Natural Character***	
Objective 2.4.1	**Form and structure of the environment** The elements of the environment that contribute to residents' and visitors' aesthetic appreciation for and enjoyment of the city are protected and enhanced. These include: (f) the compact and accessible form of Dunedin.
Policy 2.4.1.7	Maintain a compact city with a high degree of legibility based on clear centres, edges and connections through rules that: (a) manage the expansion of urban areas; and (b) require new large subdivisions to provide a concept or structure plan that demonstrates how the subdivision will provide for good connectivity to existing or potential future urban areas for pedestrians, cyclists and motor vehicles.
Strategic direction 2.6 ***Dunedin has Quality Housing Choices and Adequate Urban Land Supply***	
Objective 2.6.1	**Housing choices** There is a range of housing choices in Dunedin that provides for the community's needs and supports social wellbeing.
Policy 2.6.1.1	Provide for housing development necessary to meet the future housing needs of Dunedin, through zones and rules that provide for an appropriate mix of development opportunities, including: infill development, redevelopment and greenfield development; and that support Objective 2.2.4. Identify housing needs based on population projections and analysis of housing types required.
Policy 2.6.1.2	Encourage more residential housing suitable for our ageing population and growing number of one and two person households, through: (a) zoning of areas that provide for medium-density housing to enable transition to lower maintenance housing in existing neighbourhoods ('ageing in place'); and (b) rules that enable family flats, other than in General Residential 2 and Inner City Residential zones and areas subject to natural hazards.

Policy 2.6.1.2	Require new urban residential areas to be designed to support social connectedness and wellbeing through rules that require subdivisions to be designed in accordance with best practice urban design principles, including: (a) designing suburbs to encourage walking; and (b) providing adequate and appropriately located land for neighbourhood centres, public open spaces, and community facilities, where not already adequately serviced by nearby areas/facilities.
Objective 2.6.2	**Adequate urban land supply** Dunedin provides sufficient, feasible, development capacity (as intensification opportunities and zoned urban land) in the most appropriate locations to meet the demand over the medium term, while sustainably managing urban expansion in a way that maintains a compact city with resilient townships as outlined in Objective 2.2.4 and Policies 2.2.4.1–2.2.4.3.
Policy 2.6.1.1	Provide for housing development necessary to meet the future housing needs of Dunedin, through zones and rules that provide for an appropriate mix of development opportunities, including: infill development, redevelopment and greenfield development; and that support Objective 2.2.4. Identify housing needs based on population projections and analysis of housing types required.
Strategic direction 2.7 ***Dunedin has Affordable and Efficient Public Infrastructure***	
Objective 2.7.1	**Efficient public infrastructure** Public infrastructure networks operate efficiently and have the least possible long-term cost burden on the public.
Policy 2.7.1.1	Manage the location of new housing to ensure efficient use and provision of public infrastructure through: (a) rules that restrict development density in line with current or planned public infrastructure capacity; (b) consideration of public infrastructure capacity as part of zoning and rules that enable intensification of housing; (c) consideration of public infrastructure capacity as part of the identification of transition overlay zones, assessment of changes to zoning, or assessment of any greenfield subdivision proposals.
Policy 2.7.1.2	Ensure areas of new urban development provide for public infrastructure networks that represent the least possible long-term cost to the public.

Under the 2GP there are seven residential zones in Dunedin's urban area (Figure 4.2) which are, as the name suggests, primarily reserved for housing; standard residential activities are permitted in all zones, provided they meet the performance standards specified. The rules in these zones are generally more flexible than those of the District Plan 2006, but most residential zones are still designed to provide for low density standalone housing (Table 4.5). Under the 2GP, density includes the minimum site area for a residential unit, and the maximum number of habitable rooms (rooms intended to be used as bedrooms) per site area. Therefore, in GR1, the largest residential zone, one residential unit of up to approximately 5 bedrooms can be developed per 500 m^2 (DCC, 2018) However, the 2GP did attempt to enable greater housing choice in Dunedin's low-density residential zones through provisions for what it calls "family flats." These are small

residential units (up to 60 m^2 floor area) that are ancillary to the main residential activity on the same site; they cannot be a separate residential activity. This means that although a family flat may be a new building or part of the main house, it must be supported by the same utility services as the main house, and occupied by people related to, dependent on or employed on-site by the occupants of the main house (Rules 15.5.14.1 and 15.5.14.2).

Compared to the District Plan 2006, the main changes under the 2GP with respect to housing density are in the Inner City Residential (ICR) and General Residential 2 (GR2) zones, which are specifically intended as zones for MDH, which is described as dwellings such as townhouses and semi-detached units (Stocker, 2019). Medium-density suburban living is provided for by GR2, while ICR provides for MDH near central Dunedin, and can support higher densities due to easy access to public transport and other facilities (Section 15). In these zones, there is no minimum site area; density limits are based entirely on the number of habitable rooms per site area (the "bedroom approach"), so that it is more feasible to build smaller dwellings. There are no rules limiting the number of separate residential units that the maximum number of habitable rooms can be divided into, although consent is required for buildings with a footprint over 300 m^2 or developments that contain three or more residential units. Under the District Plan 2006 many of the areas in GR2 and ICR already contained MDH or were zoned to allow it, but they were expanded in the 2GP to include Opoho, Roslyn, Belleknowes, Andersons Bay, Waverley and parts of Caversham (DCC, 2018). However, it is important to note that these zones only cover a small area of the city.

Figure 4.2 Map of Dunedin's residential zones under the 2GP (from DCC, 2019).

Table 4.5 The density and height limits for Dunedin's residential zones under Dunedin's Second Generation District Plan.

Zone	Relative density	Min. site area	Max. site development potential (habitable rooms per m^2)	Max. building height
General Residential 1 (GR1) The hill suburbs and valleys of Dunedin's urban area. Characterised by low-density suburbs/	Low	500 m^2	1 per 100 m^2	9 m
General Residential 2 (GR2) Certain areas in the suburbs of Dunedin's urban area. Characterised by existing or proposed suburban MDH.	Medium	N/A	Infrastructure constraint mapped areas: 1 per 100 m^2 South Dunedin mapped area: 1 per 60 m^2 Other areas: 1 per 45 m^2	9 m
Inner City Residential (ICR) The residential area near the campus and between the central business district and the town belt. Characterised by existing or proposed MDH near central Dunedin.	Medium		1 per 45 m^2	12 m
Low Density Residential (LDR) Small areas of Dunedin's suburbs that have slightly larger sites than GR1 to allow more spacious and open suburban living.	Low	750m^2	1 per 150 m^2	9 m
Large Lot Residential 1 (LR1) A small number of residential areas that need to be developed at a significantly lower density than GR1 to maintain bush, open areas or due to land instability.	Low	2,000 m^2	1 per 400 m^2	9 m
Large Lot Residential 2 (LR2) A small number of residential areas that need to be developed at an even lower density than LR1 to maintain bush, open areas or due to land instability.	Low	3,500 m^2	1 per 700 m^2	9 m
Township and Settlement (TS) Outlying, low-density residential areas, that also provide further sites for future development.	Low	In the "no DCC wastewater" mapped area: 1,000 m^2 Other areas: 500 m^2	In the "no DCC wastewater" mapped area: 1 per 200 m^2 Other areas: 1 per 100 m^2	9 m

In addition to the residential zones, residential activity is also permitted in commercial and mixed zones (provided performance standards are met), which include the central business district (CBD) and town centres across Dunedin's urban areas. It is in these areas that the highest housing densities are possible, as there are no restrictions on density, and minimum heights range from 6–8 m, while maximum heights are 12–20 m, depending on the zone; the greatest heights are allowed in the CBD. Additionally, Policy 18.2.3.11, which reflects Policy 2.4.1.4, requires the height of new buildings to reflect the general height of the block and minimise adverse effects on views of Dunedin's cityscape. In terms of restrictions imposed by the 2GP, heritage requirements are likely to cause the greatest difficulty.

The 2GP also designates areas of greenfield land for future residential development. It rezoned 190 ha of land to residential, with key areas being Corstorphine, Halfway Bush, Abbotsford, Pine Hill and Ocean Grove. It also identified a further 132 ha as RTZs, which, as mentioned above, can be developed once the necessary infrastructure upgrades have been undertaken (Stocker, 2019).

Overall, the 2GP's strategic directions provide a reasonably strong basis for taking a compact city approach to housing provision in Dunedin, especially considering one of the objectives is that Dunedin is a compact and accessible city. It has gone some way towards enacting this, such as using the bedroom approach to density in medium-density zones, extending these zones, and providing for family flats. However, these changes are not adequate to meet the vision set out by the strategic directions, nor the SPD and ORPS. A particularly major limitation is that the medium-density zones cover only a small area of the city; GR1, the largest residential zone, still only allows low-density housing and family flats. As was pointed out in the literature review, such accessory dwellings cannot and should not be considered a substitute for building more MDH. Further, while the SPD suggests that when urban expansion does occur, it could include MDH, there is no indication in the 2GP that the density and height limits will be any different to those of GR1. Similarly, ORPS provided a mandate for the establishment of an UGB, something that the SPD also proposed, but no mention of this is made in the 2GP.

4.4 Dunedin's housing context

Having established the planning context for housing in Dunedin, what are the main challenges that these plans need to address? This section will provide some essential background to Dunedin, outline the key housing challenges the city is facing, and conclude with a discussion of how well the planning context described in the previous sections enables a compact city approach to addressing Dunedin's housing challenges.

4.4.1 Background to Dunedin

Dunedin (Ōtepoti), is one of New Zealand's main urban centres, located in the Otago region, on the southeast coast of the South Island. Dunedin City has a land area of 3,342 km^2 and an estimated population of 131,700 as of 2019 (Statistics New Zealand, 2007; Statistics New Zealand, 2019). However, the actual urban area of Dunedin is significantly smaller, covering just 255 km^2 (Statistics New Zealand, 2007). This area covers Dunedin's main commuting catchment, extending north to Waitati, south to Brighton, east to the Otago Peninsula, and west to Mosgiel, and comprises approximately 94% of the total population (Stocker, 2019).

Dunedin has a fairly compact urban form, due to the limited availability of flat land and low population growth, compared to a city like Auckland (DCC, 2012; Arbury, 2005). Its central city is built on flat, low-lying land, but most of its surrounding suburbs and the city's outskirts are hilly. The exceptions to this are Mosgiel and South Dunedin, which are both built on flat land. Figure 4.3 below gives a general outline of the location of the inner city and suburbs. Dunedin is very much a decentralised city; urban growth has been primarily accommodated through suburbanisation, with the dominant dwelling type being single storey standalone houses, usually on sites with an area of at least 500 m^2 (DCC, 2012).

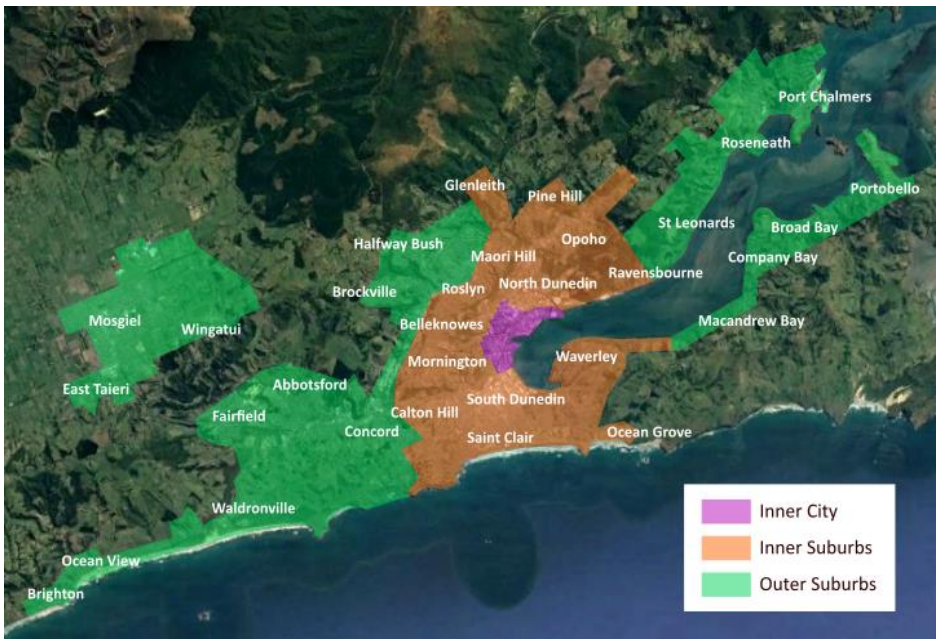

Figure 4.3 General outline of the locations of Dunedin's inner city, inner suburbs and outer suburbs are. Anywhere not coloured is considered rural.

Although Dunedin has a long history of Māori occupation, most of its architecture reflects European settlement, something that is common in many New Zealand cities. Nevertheless, the DCC considers Dunedin's many Victorian and Edwardian buildings to be one of the city's strengths, providing a distinctive character (DCC, 2012; Early et al., 2015). It is also important to mention the role of the University of Otago, Otago Polytechnic and Dunedin Hospital must be mentioned, as they play a major role in the city's economy and influence its character. The Tertiary Precinct, including the University, Polytechnic and their surrounds, is a particularly significant feature in the cityscape. It covers a large area, and its housing is much denser than is typical in Dunedin (Stocker, 2019).

4.4.2 Housing challenges in Dunedin

The following discussion of Dunedin's housing challenges is primarily informed by five DCC reports:

- "Housing capacity assessment: Dunedin City," the most recent HBA prepared by Stocker (2019);

- "Mayor's Taskforce for Housing—Housing Action Plan for Dunedin 2019–2039" (DCC, 2019d)
- "Dunedin market indicators report November 2019," the most recent quarterly Dunedin market indicators report (DCC, 2019c);
- "Dunedin City Council housing framework predictions: the housing we'd choose," a report on housing preferences commissioned by the DCC (Akehurst et al., 2019a; 2019b); and
- "Dunedin City housing choice", a report prepared by (Christofferson, 2007).

The 2007 housing preferences survey was undertaken by Christofferson (2007) in response to the changes in Dunedin's population structure that were occurring at the time. The assessment of Dunedin's housing capacity prepared by Stocker (2019) and the November 2019 Dunedin market indicators report (DCC, 2019a) were prepared according to the requirements of the NPS-UDC. The recent 2019 housing preferences survey undertaken by Akehurst et al. (2019a; 2019b) was commissioned by the DCC as the council recognised that housing preferences had likely changed since 2007 and more updated information was needed (Stocker, 2019). Finally, the Mayor's Taskforce for Housing Action Plan was developed in response to the findings of Stocker (2019) and others suggesting that Dunedin's housing supply is not keeping up with demand, and the city's affordability is declining, issues that will be discussed further below.

For most of its history, Dunedin has had a fairly static population, and over the last twenty years its average annual population growth rate was just 0.4% (DCC, 2019a). However, the population growth rate has recently risen to an annual average of 1.3%. It is predicted that population growth will slow again over the next thirty years, but nevertheless, Dunedin's population is expected to reach 135,167 by 2038, before declining slightly to 135,018 (Stocker, 2019). This is significantly higher than the DCC's 2017 projections, which put Dunedin's 2068 population at 130,945—lower than the current population (Rationale Limited, 2017).

The composition of Dunedin's population is also expected to change; the 65+ age group is expected to grow, while all others are expected to shrink slightly. However, Statistics New Zealand's most recent population estimates suggest that the 15–39 age group has been growing, so there may also be an increase in younger residents, something that is being investigated as part of the DCC's population projections review (Statistics New

Zealand, 2019; Stocker, 2019). It should also be noted that the population projections used in the housing capacity assessment do not account for the effects of the Dunedin Hospital rebuild. This will result in an influx of workers from outside Dunedin and is also likely to indirectly cause an increase in population by boosting Dunedin's economy (Stocker, 2019).

These changes in population composition mean there are likely to be more smaller households of 1–2 people (Stocker, 2019). Additionally, as discussed in the literature review, younger and older people without children are more likely to prefer living in MDH, which was borne out by the 2019 survey of Dunedin residents' housing preferences (see Section 2.5.2). The implications of these changes in population and housing preferences are that housing demand is outstripping supply. The 2GP provides an estimated feasible and serviceable capacity for an additional 2,177 dwellings in Dunedin's urban area. Almost half of these would be "on existing vacant properties of a suitable size for development," 40% would occur on greenfield land, and the remainder would be infill or comprehensive redevelopment—where existing buildings are demolished and replaced with new builds (Stocker, 2019: 29). There is also feasible, but not serviced, capacity for around 400 new dwellings in Residential Transition Zones (RTZs); however, the infrastructure upgrades that would allow residential development in these areas are not likely to occur for another ten or twenty years.

Under the 2017 population projections this capacity was deemed sufficient to accommodate the population growth, but under the newer projections used in the housing capacity assessment, capacity is likely to be sufficient to meet housing demand in the short term, but not in the medium or long term (Table 4.6). Housing capacity is also insufficient in terms of dwelling type and location (Table 4.7) Specifically, there is a shortfall in the capacity for MDH. especially in the inner suburbs, where demand is highest. This shortfall will actually be even greater, as the housing capacity assessment undertaken by Stocker (2019) was based on the housing preferences stated in Christofferson's now dated (2007) report.

Table 4.6 Sufficiency of feasible housing capacity in the Dunedin urban area out to 2048. Capacity out to 2023 is both feasible and serviceable (adapted from Stocker, 2019).

	2021	2023	2028	2048
Demand	1,565	2,127	3,424	7,261
Capacity	2,177	2,177	2,396	2,567
Sufficiency	+612	+50	-1,028	-4,694

Table 4.7 Demand vs. capacity for standalone housing and MDH in the Dunedin urban area over the short, medium and long term (adapted from Stocker, 2019).

Dwelling type	Short term (2018–21)		Medium term (2021–28)		Long term (2028–48)	
	Demand	Capacity	Demand	Capacity	Demand	Capacity
MDH	552	559	1,148	559	2,507	559
Standalone	1,013	1,618	2,277	1,837	4,754	2,008

There are several factors contributing to the insufficiency of MDH. First, although demand for MDH is growing, the existing supply of MDH is low; standalone housing makes up approximately 74.9% of the total housing stock, and the small amount of MDH that does exist is concentrated in the inner city, the Tertiary Precinct, South Dunedin and Caversham (Christofferson, 2007; DCC, 2012). Second, most new builds continue to be 4–5-bedroom standalone homes in Mosgiel and its surrounds, and in North Dunedin—and those in North Dunedin are mostly built to be student flats (Stocker, 2019). Therefore, not only is there growing demand for centrally located MDH and a lack of existing supply, but developers are not responding to this change, with most new builds not being the correct dwelling type or location. Additionally, 75% of feasible housing capacity (in terms of commercial viability) under the 2GP is for standalone housing, serving to further exacerbate the mismatch between demand and supply (Stocker, 2019). Stocker suggests that the relatively low feasibility of MDH may be partially due to minimum property sizes and lower sale prices compared to traditional standalone houses, making it a less appealing prospect to developers; feasibility is higher in and around the inner city, where planning controls are more flexible and land values are higher.

Adding to the pressure on Dunedin's housing capacity is the problem of declining housing affordability, which is a growing challenge for most New Zealand cities (DCC, 2019b; Johnson et al., 2018). A detailed investigation into housing affordability in Dunedin undertaken by Bowen (2019), confirmed that Dunedin housing is severely unaffordable, and that without intervention affordability is likely to continue to decline, a problem which is also recognised by the Mayor's Taskforce for housing (DCC, 2019b). Both the SPD and, more recently, the Mayor's Taskforce for Housing have also recognised that much of Dunedin's housing stock is old and poorly constructed by modern standards, with the Taskforce emphasising that this is intertwined with problems of housing affordability, as poorly constructed housing costs more to heat, burdening low SES groups in particular (DCC, 2012; DCC, 2019d).

4.5 A compact Dunedin?

The above discussion suggests there is a strong argument for building more MDH in Dunedin. The population growth rate means that existing housing development capacity will soon be insufficient to meet housing demand. However, this is in part because three-quarters of capacity is for standalone housing; building more MDH would increase housing capacity but require less land consumption than accommodating the shortfall by rezoning greenfield land. Beyond the issues of overall housing capacity and urban expansion, there is also growing demand for MDH due to changes in both population composition and housing preferences. The capacity for MDH is vastly insufficient to meet this demand, especially in the inner suburbs. As the literature review established, building more MDH also has the potential to help tackle the city's growing housing affordability crisis. Overall, taking a compact city approach to Dunedin's housing provision is necessary for sufficient housing capacity to be provided in a sustainable way; it will help ensure that all Dunedin's residents can thrive within the city's natural habitat, and support the protection of global biodiversity and carbon emission reductions. However, doing so will be challenging; as well as community acceptance, the planning context also creates something of a barrier to enabling the necessary increase in housing density and ensuring that this is done well.

As has been mentioned, the objectives and policies of ORPS and SPD, and the strategic directions of the 2GP, provide a fairly strong policy basis for both building more MDH and ensuring that an integrated approach to planning is taken and that developments are well-designed. However, although the SPD does mention that urban intensification should occur in any appropriate locations, and implies that new greenfield developments could include MDH, it mostly focuses on increasing housing density in the inner city and in other centres rather than in the inner suburbs. This is understandable given that it was created in 2012 and the first HBA for Dunedin was conducted in 2019, but it is still a significant limitation. On a similar note, the current ORC and DCC LTPs do not address issues of urban form and housing provision in any meaningful way, possibly for the same reason. As a consequence, there is not a clear vision for Dunedin's urban form and approach to housing provision that can be seen across ORC and DCC planning documents. Furthermore, these issues not being a focus of the LTPs indicates that despite the SPD establishing that Dunedin should take a compact city approach to housing provision in 2012, little attention has been paid to these issues until now. In part, this may be due to the fact that the SPD is a non-statutory plan and therefore there is no legal requirement to implement its objectives and policies.

The more specific policies and rules of the 2GP are also not sufficient to enable a compact city approach to housing provision, particularly considering the greatest shortfall in capacity for MDH is in the inner suburbs, which are mostly under the low-density GR1 zone. Limitations such as this, and other instances of SPD policies not being implemented (such as the absence of an UGB in the 2GP, and no further mention being made of a MDH design guide) seem to be an example of the problem noted by the MFE (2020a), where contentious issues are addressed through higher-level objectives and policies but are not actually implemented. This is not helped by the lack of national direction on urban form, as has been discussed, while the NPS-UD does suggest that urban intensification is valuable and enables it to occur in higher-growth urban areas, it provides no requirement for LAs to prioritise it over urban expansion. Its guidance on this matter is particularly weak for non-tier 1 urban areas, when arguably they need it just as much, as their relatively low population growth rates mean residents often do not see any immediate need for measures such as increasing housing density (Miller, 2011).

The failure of the 2GP to implement SPD provisions also points to the problem of relying non-statutory plans that was mentioned previously: not only do they add further complexity to an already complex urban planning framework, but they may state goals that are difficult to achieve through the actual statutory plans. Further, as there is no legal requirement to implement their provisions, they can easily add to the problem of contentious issues being addressed only at a high level—through objectives and policies—which seems to have happened in Dunedin's case. The new NPS-UD requirement for tier 2 urban areas to have an FDS could lead to the SPD being updated and incorporated into the statutory planning framework. However, Dunedin would still face the same challenges as the rest of New Zealand when it comes to attempting to engage in strategic planning within an urban planning framework that is complex, poorly coordinated, and is ultimately generates confusion about how urban issues should be addressed and the role of planning in doing so.

4.6 Conclusion

While the literature review provided the theoretical rationale for this research, this chapter has expanded on the justification for the focus on Dunedin: debates over the compact city are particularly relevant Dunedin currently due to the need build more MDH as part of the solution to the city's housing challenges. In doing so, it has explained exactly what these key challenges are—insufficient overall housing capacity, insufficient capacity of MDH, declining housing affordability and an ageing housing stock—and why building more MDH is necessary for Dunedin to be a sustainable city. The chapter also discussed the planning context around urban form and housing provision in Dunedin, examining both the overall urban planning framework and key planning documents. It became clear that the current plans guiding housing provision in Dunedin are inadequate to enable sufficient provision of MDH or for it to be done well, problems that are exacerbated by the barriers to implementing compact city ideas well within New Zealand's wider urban planning framework. In summary, there is a strong argument for taking a compact city approach to housing in Dunedin but ensuring that it is done well will be challenging.

5. Methodology

5.1 Introduction

This chapter describes and justifies the methodology used in this research. It begins by revisiting the research questions (Section 5.2) and then discusses the conceptual approach to the research and other elements of the research design (Section 5.3). Next is a discussion of chosen methods, which include a literature review, document analysis, online questionnaire survey and semi-structured interviews (Section 5.4 and Section 5.5). Finally, the chapter considers the positionality of the researcher (Section 5.6) and the ethical issues associated with the study (Section 5.7).

5.2 Research questions

As stated in Chapter 1, this research is guided by the following question:

> *What is the nature and extent of Dunedin residents' acceptance of MDH and does the design of MDH influence its acceptability?*

To assist with answering this main question, the following sub-questions were developed:

1. How willing are Dunedin residents to live in MDH in Dunedin?
2. How supportive are Dunedin residents of building more MDH in Dunedin?
3. What do Dunedin residents see as the advantages and disadvantages of living in and building more MDH in Dunedin and are these related to its design?
4. Does presenting Dunedin residents with examples of well-designed MDH encourage greater acceptance of it?

Each of these sub-questions address different facets of the main research question. Sub-questions 1 and 2 address the *extent* of Dunedin residents' acceptance, exploring both their willingness to live in MDH and their support for building more of it in Dunedin. Regarding the *nature* of acceptance, this research focuses on the influence of design on acceptance of MDH, and this is addressed by Sub-questions 3 and 4. Sub-question 4 also addresses the second part of the main research question and the role of design in *encouraging* greater acceptance of MDH.

5.3 Research design

This research adopts a post-positivist paradigm, which can be understood as both a critique and an extension of the traditional scientific paradigm of positivism (Allmendinger, 2002). In simple terms, positivism is based on the assumption that "the world around us is real, and we can find out about these realities" through objective research that follows the scientific method (Walliman, 2011: 21). Another common paradigm, often described as the opposite of positivism, is constructivism, which argues that the world around us is made up of many subjective worldviews, as each person experiences the world differently. Rather than seeking to find out about objective realities, researchers taking a constructivist approach describe phenomena according to how people understand them. Post-positivism incorporates elements of constructivism, recognising that phenomena are the result of many complex factors and are understood subjectively, but also accepts the existence of a 'real' world and the value of the scientific method (Walliman, 2011).

In accordance with post-positivism, this study takes a mixed-methods approach, where the researcher collects both quantitative and qualitative data, "integrates the two, and then draws interpretations based on the combined strengths of both sets of data to understand research problems" (Creswell, 2015: 2). Quantitative data can be expressed numerically and analysed statistically; they are useful for describing the characteristics of populations in general terms. Qualitative data, on the other hand, are typically non-numeric and analysed holistically "to draw out meaning about the qualities of things" and are useful for gaining in-depth insights (MacCallum et al., 2019: 35). The core assumption of a mixed-methods approach is that combining the strengths of both types of data provides a fuller picture of the research subject than using either alone (Creswell, 2015; Kara, 2015; MacCallum et al., 2019). Additionally, the use of multiple methods and different types of data enables triangulation: "cross-verifying the evidence from two or more difference sources of information about the same thing" to increase the robustness of the research findings (MacCallum et al., 2019: 46). As MacCallum et al. point out, taking a mixed-methods approach is often prudent in planning research, as the complexity of land use decisions tends require both depth and breadth of knowledge (MacCallum et al., 2019: 40).

Quantitative data were needed to gain a general sense of Dunedin residents' acceptance of MDH and whether well-designed examples can encourage it. These data were collected through an online questionnaire survey. However, as Chapter 2 highlighted, urban form and housing provision are complex issues that have links with many others, so people's views on it are also complex. To avoid oversimplifying Dunedin residents' views, qualitative data were also collected through semi-structured interviews and a freeform survey question. An explanatory sequential design was adopted, where the research begins with a quantitative strand, followed by a qualitative strand that is used to add depth to the quantitative results (Creswell, 2015). The basic design of this study followed the procedures for an explanatory sequential design set out by Creswell (2015), and can be summarised in the following steps:

1. Collection and analysis of quantitative survey data.
2. Examination of the quantitative survey results to determine what should be explored further in the interviews, and therefore which interviewees to select and what questions to ask.
3. Collection of qualitative data from interviews and analysis of these data and the freeform survey question to help explain the quantitative survey results.
4. Drawing inferences about how the qualitative results from the interviews and freeform survey question help to explain the quantitative survey results.

5.4 Secondary research methods

Before primary research can be undertaken, it is necessary to conduct secondary research, which involves the examination of existing research. This allows researchers "to draw upon additional datasets to those they collect as part of their research", and therefore to situate their research in the context of existing research relevant to their topic (MacCallum et al., 2019: 61). Secondary research was the first phase of this research and involved a literature review and an analysis of other relevant documents.

5.4.1 Literature review

Undertaking a literature review is a vital part of the research process. The literature review frames the research questions, methodology and analysis of results, places the research its theoretical context, and helps to determine what gaps in existing knowledge the research can help to fill (MacCallum et al., 2019). The literature review undertaken as part of this research involved the examination of key academic debates over the meaning of sustainability and urban sustainability, the sustainability of a compact urban form, and the challenges of creating a compact city. Regarding the challenges of creating a compact city, the literature review particularly focused on the question of how compact a compact city should be and on community acceptance of the compact city. Existing research on community acceptance of the compact city suggested that design may influence the acceptability of MDH and examples of well-designed MDH may encourage greater acceptance of it. Consequently, the literature review also involved an examination of influential and/or particularly relevant works on the design of MDH and identified key criteria for well-designed MDH. These criteria informed the selection of examples used in the survey and interviews as discussed below in Section 5.5. The literature review also informed the survey and interview questions.

5.4.2 Document analysis

Document analyses provide context about the place of research, including its planning context (MacCallum et al., 2019). In this research, the document analysis comprised media articles and official government documents, including legislation and policy. Both document types provided essential background information, which was especially valuable given the lack of academic literature on urban form, housing provision and MDH in Dunedin. Along with the literature review, this knowledge informed the survey and interview questions. The document analysis also provided information about the planning context around urban form and housing provision in Dunedin, and Dunedin's current housing challenges. Familiarity with this context was necessary to understand why debates over the sustainability of urban form and building more MDH are particularly relevant in Dunedin, and therefore to justify this study's focus on Dunedin.

5.5 Primary research methods

Two methods were used to collect primary data that addressed the research questions: a survey and interviews. This section will outline why the specific survey and interview methods used were chosen, and how data was collected and analysed.

5.5.1 Online questionnaire survey

Quantitative data was collected through an online questionnaire survey. This research seeks to understand, in a general sense, Dunedin residents' views on MDH, and the researcher therefore needed to reach many people in a relatively short time period. Surveys are an established method for systematically gathering broad-based information from a large number of people. In particular, they are commonly used in planning research to gauge public opinion; if they are well-designed, they can help researchers "identify and quantify...at a broad scale", how many and which people hold certain opinions, why they hold those opinions, and what might persuade them to change (MacCallum et al., 2019: 107). This aligns closely with the questions this research asks.

Rationale for using an online questionnaire survey

There are a variety of survey methods, and it is important to consider which to use. In this research, an online questionnaire survey that was self-completed by respondents was chosen as the main method of primary data collection for several reasons.

Self-completion was the questionnaire type decided upon, where respondents complete the survey without the researcher present to guide the process. The main advantages of this were that it made administering the questionnaire to many people more feasible and was more likely to produce comparable data—it removed the possibility of the researcher creating bias in the responses by interacting differently with different respondents (MacCallum et al., 2019). Similarly, it was decided to use an online rather than a postal questionnaire to create more potential for 'snowballing' and overall reach more people within a relatively short time frame (MacCallum et al., 2019). In the context of the COVID-19 pandemic, an online, self-completion questionnaire was also safer and less likely to be disrupted.

There were also disadvantages to choosing an online questionnaire survey that was self-completed. Surveys "limit the range and scope of questioning" (Walliman, 2011: 88), and therefore are not useful for obtaining in-depth information, particularly on complex subjects. Choosing a self-completion questionnaire further limits the complexity of questions; there is a greater potential for communication errors compared to researcher completion (where the researcher asks respondents questions) or self-completion with researcher present (where the researcher can answer any questions from respondents) (MacCallum et al., 2019). The main disadvantages of the survey's online format are that it is impossible to ensure that respondents are part of the population of interest, and certain groups are more likely to receive and complete the survey than others, creating bias in the sample. In particular, people aged 65 or older are more likely lack proficiency with digital devices and the internet than younger age groups, and therefore remain one of the most digitally-excluded groups in New Zealand (Digital Government, 2017). To try and bolster the participation of Dunedin's older residents, the survey was distributed through Age Concern Otago and the Dunedin 60+ Club. The advantages of the chosen survey method were considered to outweigh these limitations, but it is important to recognise them nonetheless.

Survey design and distribution

The survey population was current adult Dunedin residents; anyone aged 18 or older currently living within the Dunedin City boundary (see Figure 5.1 below). The survey was open for completion from 20 July 2020 to 23 August 2020, and in total 405 responses were collected, with 313 completed—a completion rate of 77%. The survey was distributed in several ways; as Table 5.1 shows, a wide variety of community groups, organisations and schools were asked if they were willing to distribute the survey, and the survey was also distributed within the researcher's own social network. The survey then spread further by snowballing, as participants were encouraged to share the survey link themselves. Different links were sent to different groups of potential respondents, so that bias in the data could be more easily identified. Table 5.1 shows that the majority of respondents came from the researcher's social network and Dunedin News, a Facebook group with over 50,000 members; respondents from both these groups varied widely in their demographics and views. It is important to note that some links were not identified,

so it is possible that respondents with unidentified links could have belonged to groups without any respondents. Additionally, while all Dunedin schools were contacted, only Logan Park High School (a state secondary school), Dunedin North Intermediate (a state intermediate) and St Clair School (a state primary school) responded to the researcher's enquiry about sharing the survey with their staff and/or the parents of their students. Nevertheless, there were a few respondents from staff or parents of children at private or state integrated secondary and composite schools.

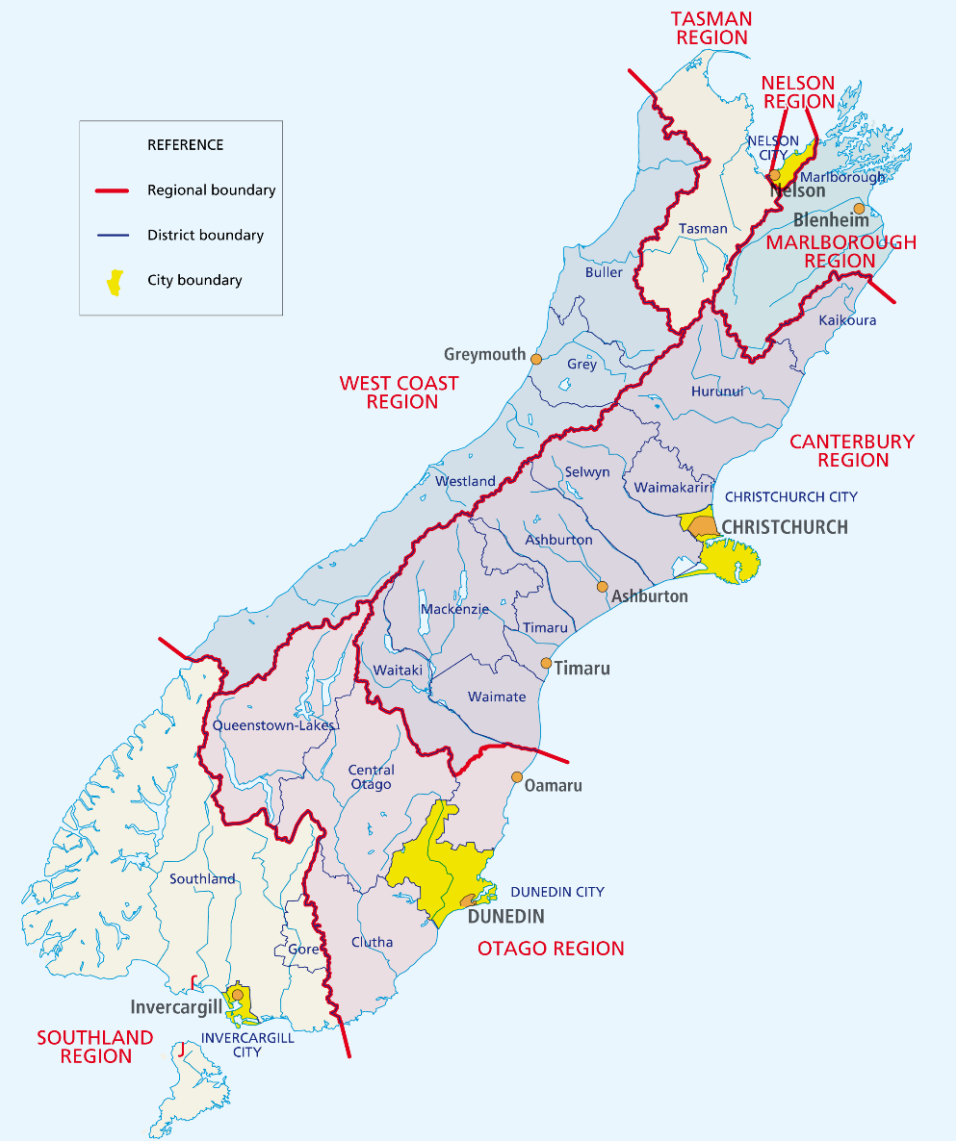

Figure 5.1 Map of the South Island, showing the Dunedin city boundary, which is the geographic boundary of the sample population (adapted from LGNZ, 2020).

Table 5.1 Groups that the survey was distributed to and the number of respondents from each group.

Link number	Group	Number of respondents
N/A	Unidentified link	18
Link 1	Researcher's social network, including personal Facebook page	137
Link 2	Building and Construction Industry Training Organisation	2
Link 3	Dunedin News Facebook group	121
Link 4	University of Otago School of Geography and Master of Planning Facebook pages	6
Link 5	Dunedin 60+ Club	4
Link 6	The Valley Project	0
Link 7	South Dunedin Community Network	3
Link 8	Greater Green Island Community Network	0
Link 9	Age Concern Otago	4
Link 10	Pacific Trust Otago	0
Link 11	State secondary and composite schools	6
Link 12	Private and state integrated secondary and composite schools	0
Link 13	State primary and intermediate schools	5
Link 14	Private and state integrated primary and intermediate schools	7
Link 15	Toiora High St Cohousing	0

The survey was created using Qualtrics. Most of the survey questions were closed-format, multi-choice questions, often with an "other (please specify)" option. The questionnaire began by providing respondents with essential information: an information page introducing the research project, a page outlining how the survey worked, and a page defining the three dwelling types mentioned in the questionnaire: standalone houses, attached townhouses and apartment buildings. The rest of the questionnaire can be divided into three parts.

Part 1 asked questions that sought to establish key background information about respondents. It began with a section titled 'about you' that collected demographic information. This was followed by 'housing experience', a section that asked questions about respondents' current housing situation and past housing experiences. Part 2 of the questionnaire began with the definition MDH used in this research. This part was titled

'your views on MDH', and asked questions about respondents' willingness to live in MDH and support for building more of it in Dunedin.

Part 3 investigated whether presenting respondents with well-designed examples of MDH positively affected their views on it. The examples were selected based on the design criteria identified in the literature review, with a particular focus on provision of green space, as existing research in New Zealand suggested that loss of a garden and the creation of "concrete jungles" are particular concerns for New Zealanders (e.g. (Bryson, 2017; Dunbar & Mcdermott, 2011; Hocking & Kroksmark, 2013; Opit et al., 2019b; Vallance et al., 2005). The exception to this was the inclusion of attached townhouses in Nieuw Leyden, the Netherlands. This had less green space compared to the other examples but was included as it was a good example of affordable, self-built attached townhouses, each of which looked quite different to its neighbours. The selection of examples was also determined by whether enough reliable information was available about the examples, whether high-quality photos could be found, and the need for the photos in the survey to show a range of MDH design options.

Respondents were presented with examples of well-designed attached townhouses and apartment buildings, and a summary of key design features that all examples possessed. For each set of examples, respondents were asked which design features positively affected their views, which circumstances they would live in MDH and whether they would support building more MDH in Dunedin if it was similar to the examples. Respondents were then asked to indicate on a scale of 1–10 how much design quality influenced whether they would live in and support building more MDH in Dunedin. Finally, respondents were invited to share any other thoughts in a free-form 'any other comments?' question. The full questionnaire can be found in Appendix 1. A pilot survey was undertaken with four people to ensure that the survey was logical and easily understood by those without prior knowledge of the topic (MacCallum et al., 2019).

Survey data analysis

The survey data were exported from Qualtrics and analysed as a Microsoft EXCEL spreadsheet. There were few respondents used the "other (please specify)" option, and these responses typically overlapped with already selected multi-choice options.

Consequently, the "other" data points were cleaned or represented as the appropriate multi-choice option. Additionally, the data were cleaned of mutually exclusive responses to the same question, such as where both "there aren't any" and "it's more affordable" were selected in response to "in your opinion, what are the advantages of living in MDH?" In instances such as this, the "there aren't any" response was deleted. The occupations that survey respondents entered were classified using the Australian and New Zealand Standard Classification of Occupations to enable comparison with census data. With the exception of the final freeform survey question, the survey data were then converted into numerical form for analysis. The freeform question was coded in the same way as the interview transcripts, which is described below.

5.5.2 Semi-structured interviews

Interviews "draw on the conversations or exchanges between the interviewer and...interviewee to generate rich qualitative data" and are therefore appropriate for understanding attitudes to planning issues such as increasing housing density. (MacCallum et al., 2019: 149). Typically, interviews are used when participants have some special knowledge or experience in relation to the research topic (Walliman, 2011). However, as this research is concerned with understanding residents' views on MDH, interviews were conducted with ordinary residents who had no particular expertise in relation to this research. The aim of these interviews was to obtain a more in-depth understanding of a few residents' views to provide additional detail that would help to explain the survey results.

Rationale for using semi-structured interviews

It is important to consider structured the interviews will be In structured interviews, interviewees are asked a set of standardised questions, whereas unstructured interviews often begin with a few questions, but the interviewee is then encouraged to lead the direction of the interview. Semi-structured interviews are based on a set of questions or topics which guide the general direction of the interview rather than determine its structure. Semi-structured interviews are the most common style used in planning research, as they allow the researcher to focus on topics of most interest to them but are

flexible enough to capture unexpected information. As MacCallum and colleagues note, this approach is most useful "when you have a clear idea of what type of data you need, but are also open to new information, issues and questions" (MacCallum et al., 2019: 152). For this reason, semi-structured interviews were used in this research; it was necessary to both be able to compare interviewees' views on certain topics, and for interviewees to raise other points, in order to uncover nuances in their views on MDH. The general topics covered is included in the Information Sheet for interviewees, which can be found in Appendix 2.

Interviewee selection

The interviewees were all survey respondents, as the survey included a question where respondents could provide their email if they were interested in being interviewed. In total, 84 survey respondents expressed an interest in being interviewed, but as it was not feasible to interview all of them, potential interviewees were selected from this pool using stratified random sampling. The strata were acceptance of MDH, change in views on MDH, and age. Age was selected due to the survey results suggested age may influence views. Willingness to live in MDH can be taken as a general indicator of acceptance (Bryson, 2017), and so respondents split into whether they "accepted" or "opposed" MDH based on the circumstances they would consider living in it. If respondents selected 0–2 circumstances, they were in the "oppose" group, and if they selected 3 – 5 circumstances they were in the "accept" group.

Next, respondents were sorted according to whether the number of circumstances they would consider living in MDH increased by one or more after seeing the well-designed examples of MDH. This resulted in four categories: "oppose MDH, no change", "oppose MDH, change", "accept MDH, no change" and "accept MDH, change". Within each of these groups, respondents were sorted by age, and two under 40 and two over 40 were randomly selected from each group, resulting in 16 potential interviewees. This initial group were contacted, and when some did not respond, others were selected to replace them.

In the end, thirteen interviews were conducted from 24 August to 9 September 2020 at a variety of locations; mostly at the University of Otago, but some at cafes or interviewees'

places of work. As Table 5.2 shows, there were a few more interviewees from the "oppose" groups, although this was not entirely a disadvantage, as understanding why Dunedin residents' might oppose MDH and how to encourage greater acceptance of it is a key focus of this research. Unfortunately, however, there was not quite the range of ages hoped for, with only three interviewees in their twenties, due simply to which people responded to requests for being interviewed within the necessary time frame.

Table 5.2 Interviewees, grouped according to their views on MDH and their age.

Interviewee group	Interviewee age	Interviewee code
Oppose MDH, no change	30–39	ON1
	40–49	ON2
	40–49	ON3
	65–74	ON4
Oppose MDH, change	25–29	OC1
	40–49	OC2
	40–49	OC3
	65–74	OC4
Accept MDH, no change	18–24	AN1
	40–49	AN2
Accept MDH, change	25–29	AC1
	30–39	AC2
	65–74	AC3

Interview data analysis

Interviews were recorded and subsequently transcribed verbatim to ensure that interviewees' views were represented as accurately as possible (MacCallum et al., 2019). The transcriptions were coded to assist the analysis and interpretation of the interview data. The codes were based on the survey questions, to enable the comparison of interview and survey data.

5.6 Positionality

As this research takes a post-positivist approach, it recognises that the researcher is not independent and objective but is "inextricably bound into the human situation" being

studied (Walliman, 2011: 22). Therefore, despite the researcher's intent to be a neutral party, it is not possible for the research to be undertaken with complete neutrality.

I am a 22-year-old student in my fifth year of study at the University of Otago; I hold a Bachelor of Applied Science and I am currently working towards completing a Master of Planning. I am a Pākehā woman and have grown up in a standalone house in a Dunedin suburb. This research topic emerged from my concern about both Dunedin's current housing challenges and sustainability; I was interested in the potential of MDH to help address both social and environmental issues in Dunedin, and whether this was an acceptable option to other Dunedin residents. Despite my personal views on the research topic, I sought to remain as neutral as possible throughout the research process and approached it with an open mind and a genuine interest in the views of Dunedin residents.

5.7 Ethical considerations

It is vital that research is conducted in an ethical manner, and it is the responsibility of the researcher to consider the effects of their research on people—particularly on those people involved in the research process. Research participants must "be treated with due ethical consideration, both on their own part and on the part of the information they provide" (Walliman, 2006: 153). This research raised few ethical concerns, as although housing provision is a controversial topic, the research was interested simply in understanding participants' views, and not in challenging them. Nevertheless, there were ethical issues to consider.

A key issue is ensuring that participants are given information about the research that enables them to make a fair assessment of it and give their informed consent before taking part (Walliman, 2006). The online questionnaire began with an information page (Appendix 1) and interviewees were provided with an information sheet and consent form prior to the interview (Appendix 2). These outlined the purpose of the research, issues such as confidentiality and anonymity. Importantly, they made it clear to participants that the project was about understanding residents' views, and that their views were of interest whether they supported MDH, opposed it or had never given it any thought. Another key consideration was protecting the anonymity of participants,

and particularly of interviewees. Dunedin is a relatively small community, so it is possible—though unlikely—that participants could be identified from a quotation. To try and prevent this, participants were anonymised.

Although the researcher sought to avoid asking participants any sensitive questions, it was possible that participants could be hesitant or uncomfortable to answer questions in the survey or the semi-structured interviews. Regarding the survey, it was made clear to participants that if they chose not to complete the survey their responses would not be used in the research. Interviewees were informed that if the line of questioning developed in a way that made participants hesitant or uncomfortable, they could decline to answer questions, end the interview and withdraw any information provided without any disadvantage to themselves before 31 September 2020.

There were also important ethical considerations in relation to the COVID-19 pandemic. The researcher was sensitive to the fact that participants could be experiencing stress due to the pandemic and sought to ensure that the research did not place any further stress on them. Although under Alert Level 2 interviews could be safely conducted in person, interviewees were able to choose to have the interview over Zoom instead.

Primary data collection did not begin until the research received ethical approval from the University of Otago; a Category B application form was submitted, and approval was granted by the University of Otago Geography Department, then subsequently by the University of Otago Human Ethics Committee when the application was reviewed.

5.8 Conclusion

This chapter has justified why this study takes a mixed methods approach, employing both qualitative and quantitative methods, to addressing its research questions. In terms of secondary research, this involved a literature review and document analysis, and both an online questionnaire survey and semi-structured interviews were used to collect primary data. The methodology used enables a robust investigation of the research questions and gives appropriate consideration to the positionality of the researcher and ethical issues. The findings of the research undertaken using the methodology discussed here are the focus of the following chapters.

6. Results

6.1 Introduction

This chapter describes the results of the primary research. It begins with a discussion of the participant demographics and the limitations of the data collected (Section 6.2). The subsequent sections loosely address the research questions. Section 6.3 presents the findings on participants' willingness to live in MDH, exploring the extent to which they are willing to live in MDH, and what they see as the advantages and disadvantages of doing so. Section 6.4 follows a similar structure with respect to participants' support for building more MDH, and then briefly addresses the issue of NIMBYism. Section 6.5 focuses on encouraging community acceptance of MDH, presenting the results on the influence of design on participants' acceptance of MDH. It also describes findings on the value of engaging with residents on MDH and related issues, and key considerations to ensure that community engagement is effective. Most sections in this chapter begin by describing the quantitative survey results and then add depth to them by exploring the qualitative results gathered from the interviews and responses to the freeform survey question, reflecting this study's explanatory sequential design. However, the findings on NIMBYism and considerations when undertaking community engagement are primarily qualitative, as they were not the main focuses of this research but as noteworthy themes from the qualitative data.

6.2 Participant demographics

Understanding the demographics of the research participants is important, as they may influence participants' views and indicate the representativeness of the survey sample (Walliman, 2011). Consequently, the survey began with a set of questions that asked about characteristics including age, income, household size, household type and housing experience. Additional information about interviewees' housing experience was gathered from the interviews. This section will provide an overview of the demographics of the survey sample and the thirteen interviewees and discuss the key limitations of the data collected.

6.2.1 Survey respondents

In total, 313 Dunedin residents completed the survey. Table 6.1 below shows that survey sample was fairly representative in terms of age. It is important to note that the census used age groups that did not exactly correspond to those used in this survey; the census used the groups 15–19 and 20–24, and the latter was chosen as it provided the closest comparison to the survey's 18–24 age group. However, as it still excluded 18–19 year olds, 18–24 year olds may not actually be overrepresented in the survey sample. The age groups that Dunedin's population growth is expected to be concentrated in (18–29 and 65+) are well represented. Despite the efforts to recruit older survey respondents described in Chapter 5, there were comparatively few respondents aged 75–84, and none aged 85 or older. This is not ideal, but at the same time, understanding the views of residents aged 50–74 is particularly important given the projected growth in Dunedin's 65+ population is driven by the ageing of the large baby boomer cohort (Stats NZ, 2019; Stocker, 2019). As there were so few 75–84 year olds, this age group was combined with the 65–74 age group in all subsequent analyses.

Table 6.1 Survey respondents by age, compared to the age distribution of Dunedin's adult population according to the 2018 census (census data from Stats NZ, 2018).

Survey		2018 census	
Age (years)	**% of respondents**	**Age (years)**	**% of respondents**
18–24	19	20–24	14
25–29	10	25–29	8
30–39	11	30–39	15
40–49	18	40–49	16
50–64	21	50–54	25
65–74	16	65–74	12
75–84	3	75–84	7
85+	0	85+	3

Figure 6.1 shows the household income distribution of the survey sample. Notably, 74% of survey respondents were living in households earning less than $100,000 per year. As Akehurst et al. (2019a) pointed out, this is the principal household type in terms of income in Dunedin. Nevertheless, it was clearly over-represented in this sample, as although Akehurst et al. (2019a) intentionally weighted their survey toward households in this income range, it only accounted for 64% of respondents to their survey.

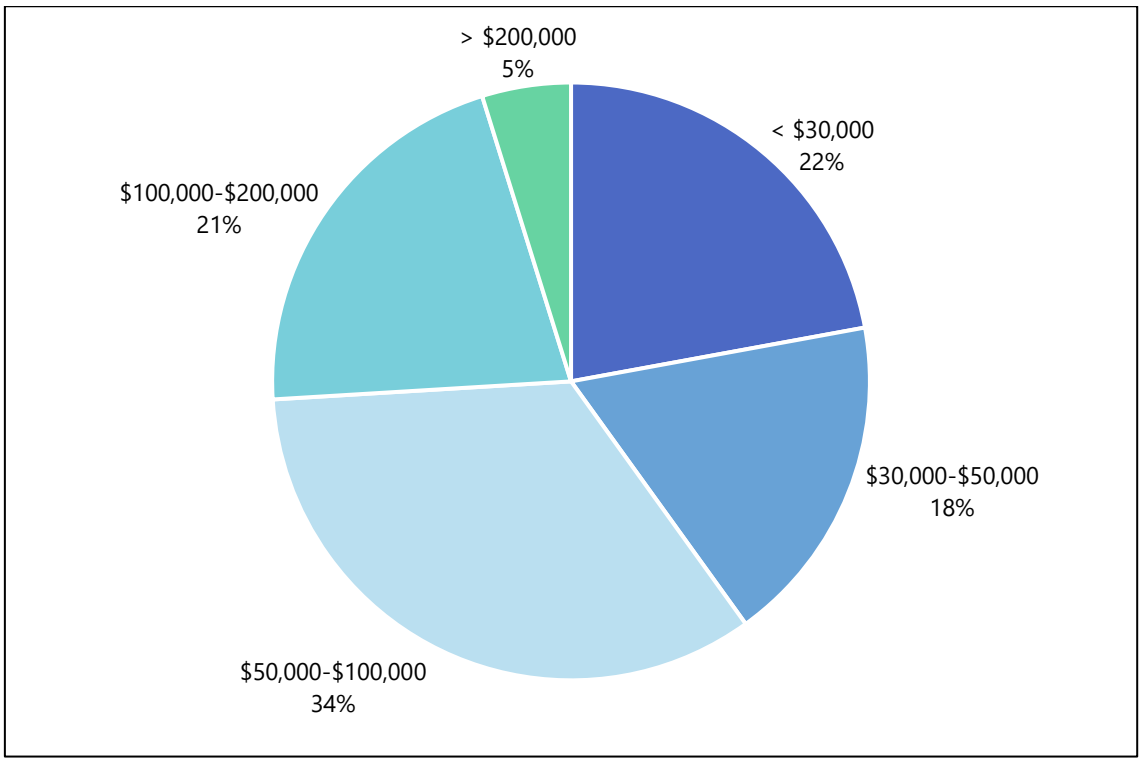

Figure 6.1 Survey respondents by annual household income.

Looking at Figure 6.1 alone, it appears that there were many low SES survey respondents. However, students (16%) and retirees (19%) made up a large proportion of the lower household income brackets, and although these respondents may have low *income*, they are not necessarily low *socioeconomic status*. This suggests that low SES residents may have been underrepresented rather than overrepresented in the survey sample, a conclusion that is supported by the occupation distribution of employed survey respondents (which excludes students and retirees). As Figure 6.2 shows, professionals are vastly overrepresented in the survey sample, while typically lower-income occupations are underrepresented. Additionally, Figure 6.3 shows that over half the survey respondents lived in Dunedin's inner suburbs, excluding South Dunedin. As many of Dunedin's low SES residents live in South Dunedin (Goldsmith & Hornblow, 2016), this, along with the income and occupation data, suggests that low SES residents were underrepresented in the survey sample.

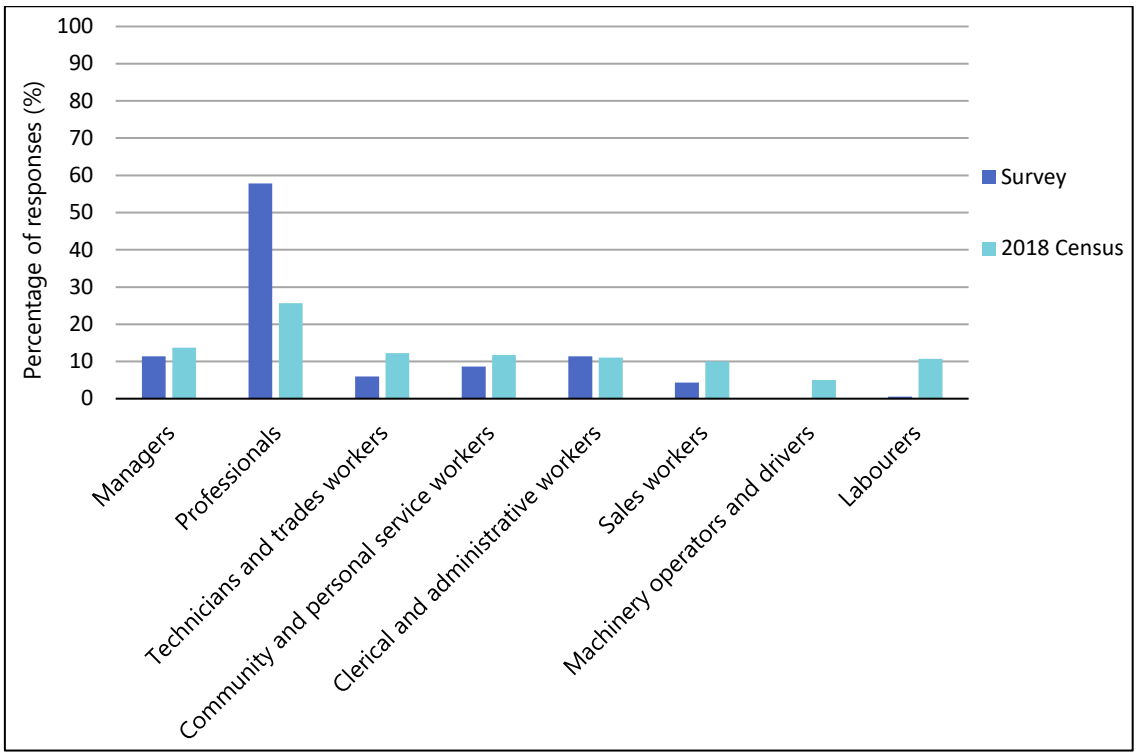

Figure 6.2 Employed survey respondents by occupation and the occupation distribution of employed Dunedin residents according to the 2018 census.

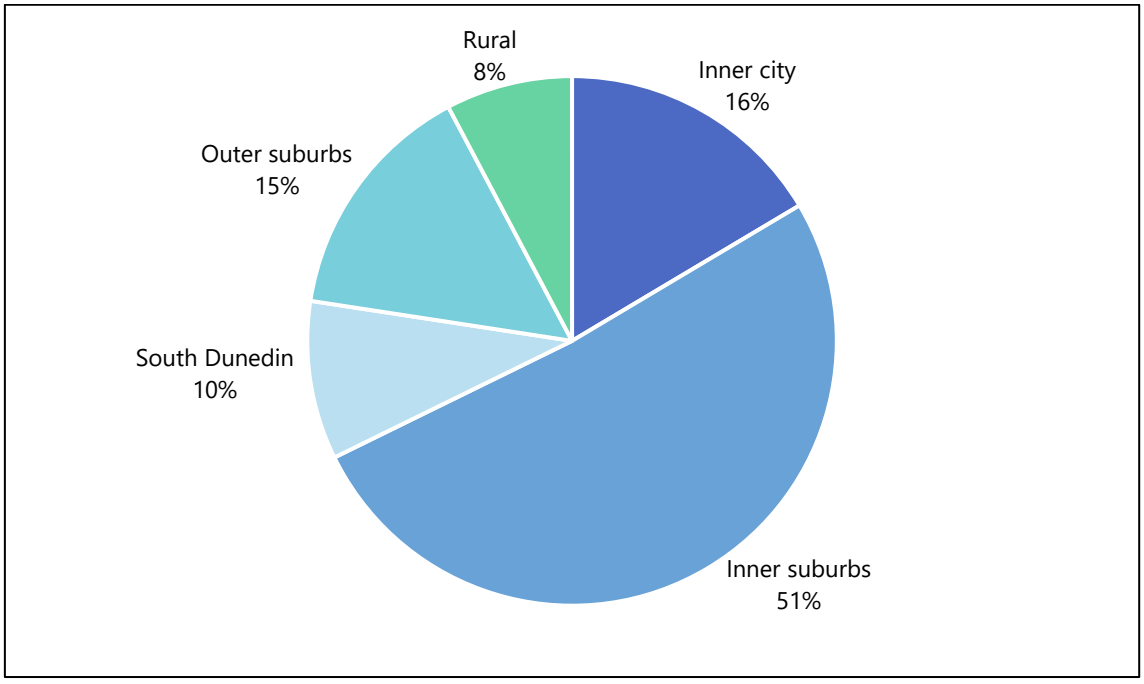

Figure 6.3 Survey respondents by location within the Dunedin City boundary.

The majority of respondents were homeowners (66%) while just over a third were renters (34%), and these percentages differ by just 1% from the findings of the 2018 census (Stats NZ, 2018). Unsurprisingly, the vast majority (87%) of respondents said they lived in a standalone house, which is very similar to the 88% reported by Christofferson (2007). On the other hand, 11% of respondents said they lived in an attached townhouse, and just 2% said they lived in an apartment building. As Table 6.2 shows, half of respondents lived in one or two person households, and half lived in households of three or more people, but few lived in households of five or more. Nearly a fifth of respondents lived in non-family households, most of whom were students. Based on the findings Akehurst et al. (2019a) it is likely that families with children were slightly underrepresented.

Table 6.2 Survey respondents by household type and size.

Household type	**% of respondents**
One person	11
Couple without children	31
Parent(s)/caregiver(s) with children	33
Extended family	5
Non-family	19
Household size	**% of respondents**
1	11
2	39
3	14
4	20
5	11
6+	5

The majority of respondents were long-term Dunedin residents: 68% had lived in Dunedin for more than 10 years, 13% for 5–10 years, and only 1% for less than a year. Additionally, 43% of respondents had grown up mostly in Dunedin, while 35% mostly grew up elsewhere in New Zealand and 21% grew up overseas. As Figure 6.4 shows, respondents who grew up overseas were more likely to have spent time attached townhouses or apartment buildings while growing up that those who grew up in Dunedin or elsewhere in New Zealand.

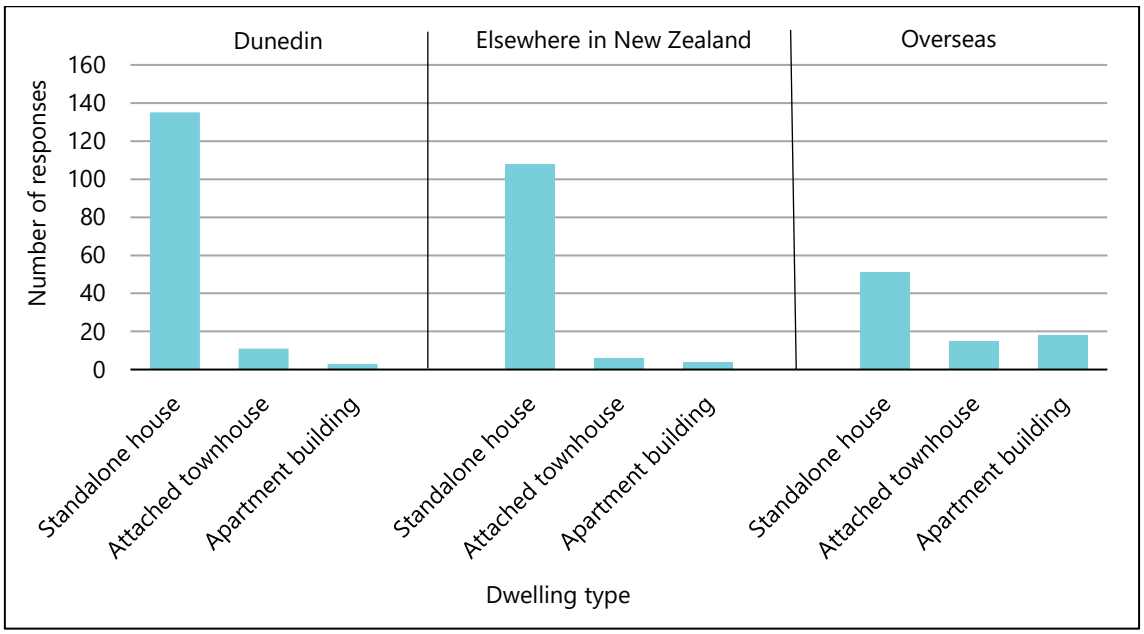

Figure 6.4 The dwelling types that respondents who grew up in Dunedin, elsewhere in New Zealand and overseas spent time in while growing up. Respondents could select more than one dwelling type.

Finally, Figure 6.5 shows the amount of time the respondents had spent in different dwelling types over their life. Over 90% of respondents had spent more than 10 years in a standalone house whereas about 5%% had spent the same amount of time in an attached townhouse or apartment building. Furthermore, although most respondents had spent some amount of time in some kind of higher-density housing, around a quarter had never spent time in an attached townhouse or apartment building.

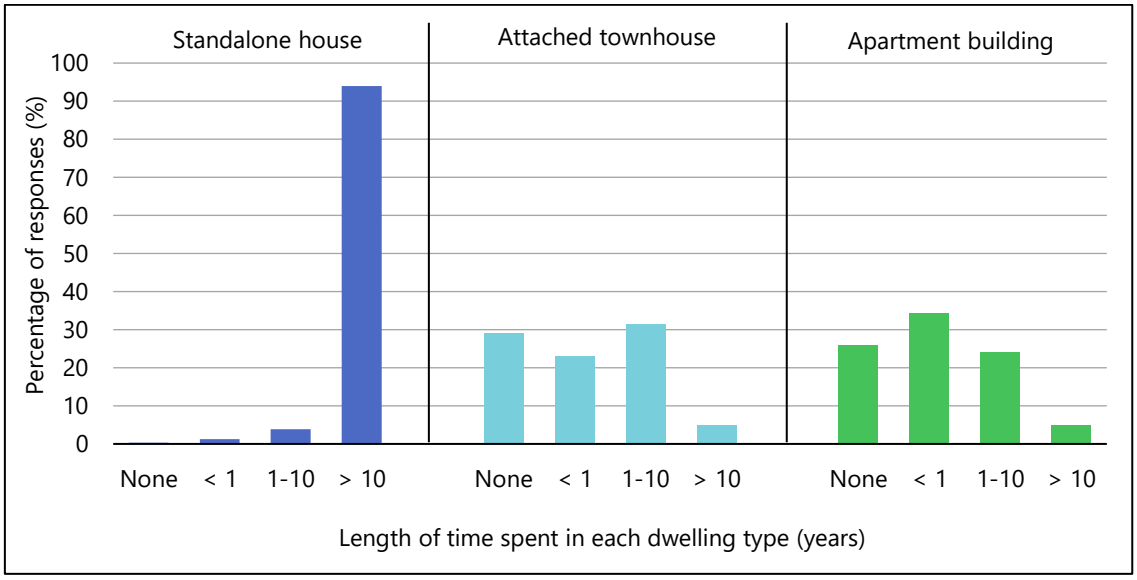

Figure 6.5 Survey respondents by the amount of time they had spent in different dwelling types.

6.2.2 Interviewees

As discussed in Chapter 5, thirteen of the survey respondents were interviewed.

Table **6.3** below outlines some of their key demographic characteristics. Interviewees lived in a variety of locations, but with the exception of AN1 they all lived in a standalone house that they owned. AN1 was renting an attached townhouse with a couple.

Table 6.3 Interviewees' age, occupation, household type and current dwelling location.[1]

Interviewee	Age	Occupation	Household type	Current dwelling location
ON1	30–39	Customer service	Family with children	Inner city
ON2	40–49	Business owner	Family with children	Inner city
ON3	40–49	Barrister	One person	Outer suburbs
ON4	65–74	Spatial analyst	Family with children	Inner suburbs
OC1	25–29	Human resources coordinator	Couple	Inner suburbs
OC2	40–49	Photographer	Family with children	Outer suburbs
OC3	40–49	Transitional housing case worker	Family with children	Outer suburbs
OC4	65–74	Teacher	One person	Inner suburbs
AN1	18–24	Student	Non-family	Inner city
AN2	40–49	Nurse	Family with children	Outer suburbs
AC1	25–29	Health and disability needs assessor	Couple	Inner city
AC2	30–39	Human resources advisor	Couple	Inner suburbs
AC3	65–74	Retired minister	Couple	Inner suburbs

Most of the interviewees had lived in Dunedin for 10 or more years, the exceptions being ON1 and AC1 (1–5 years) and OC3 (5–10 years). Additionally, seven interviewees grew up in Dunedin, ON4, OC3, AN2 and AC3 grew up elsewhere in New Zealand, AC1 grew up in Australia, and all of these interviewees grew up in standalone housing. ON1 had quite a different childhood, growing up in apartment buildings in China. However, most interviewees had spent some time in higher-density housing. A common experience was living in MDH as young adults without children. In the survey, OC2 and ON3 said they

[1] Henceforth, household types and locations will be abbreviated as follows when used to identify an interviewee: one person (O), couple (C), family with children (F), non-family (N); inner city (IC), inner suburbs (IS), outer suburbs (OS).

had only lived in standalone housing, but during ON3 mentioned he had lived attached townhouses for few months, while OC2 had squatted in a 3 storey London apartment building for around 9 months. OC3 and AN2 had both lived in MDH prior to having children. OC3 said in the survey that she had lived in an attached townhouse for 1–5 years, but in the interview described it more as a two-storey apartment building with a total of 6 or 8 dwellings. AN2 had lived in a hall of residence-type situation when studying to become a nurse in Invercargill, and in an attached townhouse in Bristol in the 1990s, each for less than 6 months. OC1 had lived in apartment buildings while on holiday and had spent a year in what was effectively a studio apartment in North Dunedin, where she had her own room and bathroom but shared a kitchen with five other people. AN1 had been living in an attached townhouse since the start of 2020 and was planning to move into studio apartment for part of 2021. Until 2020 he had lived only in standalone houses but had spent some time in an attached townhouse in London and an apartment building in Paris while visiting relatives.

Other interviewees had quite different experiences. AC3 had mostly lived in standalone housing, but between flatting in Auckland and briefly living in an apartment in China had spent 1–5 years living in apartment buildings. In China, he lived on the fifth floor of an apartment building around 7 storeys tall. ON2 had also mostly lived in standalone housing. However, he and his wife renovated and rented or sold older houses, and for around 6 months had lived with their children in one of a block of four attached townhouses they owned. In the survey, OC4 mentioned in the interview that she had stayed in apartment buildings when visiting her son and daughter in Australia. ON4 had lived in higher-density housing for short periods of time when working overseas in England and Asia. In England he had lived in an attached townhouse for between 6 months and a year and had spent a similar amount of time in high-rise apartment buildings in Asia.

Only three had experience living higher-density housing long term. ON1 grew up living in apartment buildings in China; most of these were MDH, but in the last few years before leaving China, she lived in a 22 storey apartment building. When she first moved to New Zealand around 10 years ago, she lived in a high-rise apartment building in Auckland Central before she and her husband bought a standalone house in South Auckland. She moved with her family to Dunedin less than five years ago and bought a large standalone

house in Dunedin Central. AC1, on the other hand, had grown up in a standalone house, but the first house she and her partner bought was an attached townhouse in Australia, which they lived in for 6–10 years. AC2 had the most experience living in MDH in Dunedin having lived in an attached townhouse for 1–5 years, and a 2 storey apartment building for 6–10 years, both in Dunedin Central.

6.3 Willingness to live in MDH

As has been discussed, acceptance of MDH includes both willingness to live in it and support for building more of it; this section explores participants' willingness to live in MDH. To determine the extent of their willingness to live in MDH, survey respondents were first asked which under which circumstances they would consider living in MDH, and where in Dunedin they would consider living in different types of MDH. It is important to note that this provided insight into what respondents would *consider* doing, not what they necessarily would prefer or intend to do. Information on the nature of respondents' willingness to live in MDH was collected by asking what they thought its advantages and disadvantages were, which gave an indication as to why respondents would consider living in MDH or not, and whether they had any design-related preconceptions about doing so. The qualitative findings provided further insight into the nature of respondents' willingness to live in MDH.

6.3.1 The extent of willingness to live in MDH

The vast majority of respondents said they would consider living in MDH in some circumstance; only 6% completely ruled it out (Figure 6.6). However, the results also suggest that respondents are unlikely to consider living in MDH with children; only 27% of respondents selected the option "while raising children." In contrast, the majority of respondents said they would consider living in MDH as young or middle-aged adults without children (72% and 56%, respectively), or when downsizing for health reasons (77%), suggesting that respondents are most likely to consider living in MDH as younger or older adults without children.

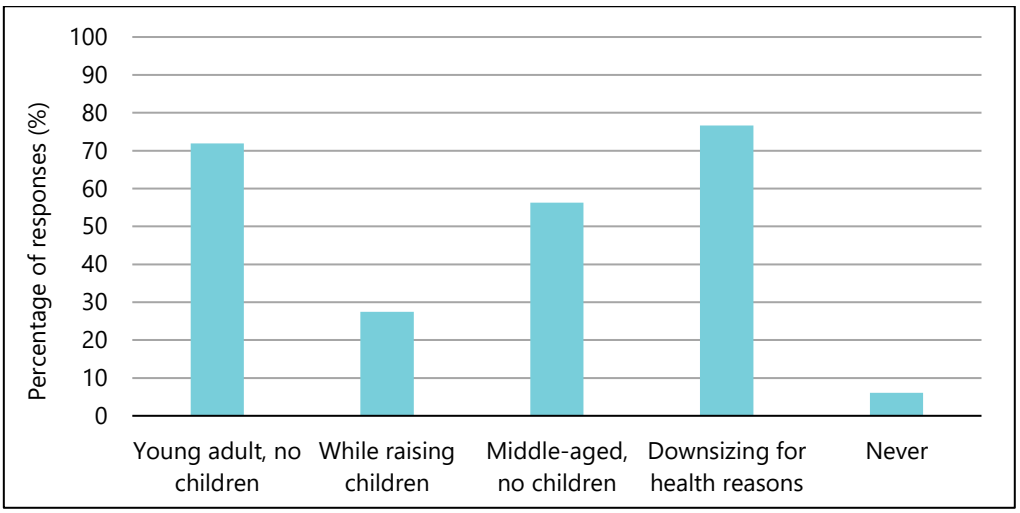

Figure 6.6 The circumstances in which survey respondents would consider living in MDH.

Figure 6.7 indicates that younger respondents may be more willing to live in MDH than older respondents, and in particular may be willing to do so in a wider range of circumstances. More respondents aged 18–29 said they would consider raising children in MDH compared to respondents who were 30 or older. In fact, nearly half of respondents in these two youngest age groups selected "while raising children", compared to a quarter or less of respondents aged 30 or older. Additionally, the 65–84 age group was the only one to have over 10% of respondents say they would never consider living in MDH, and this was more than three times greater than the percentage of 18–24 year olds who selected this option. This indicates that Additionally, younger respondents were more likely to consider living in MDH as young adults, while older respondents were more likely to consider it as an option for downsizing.

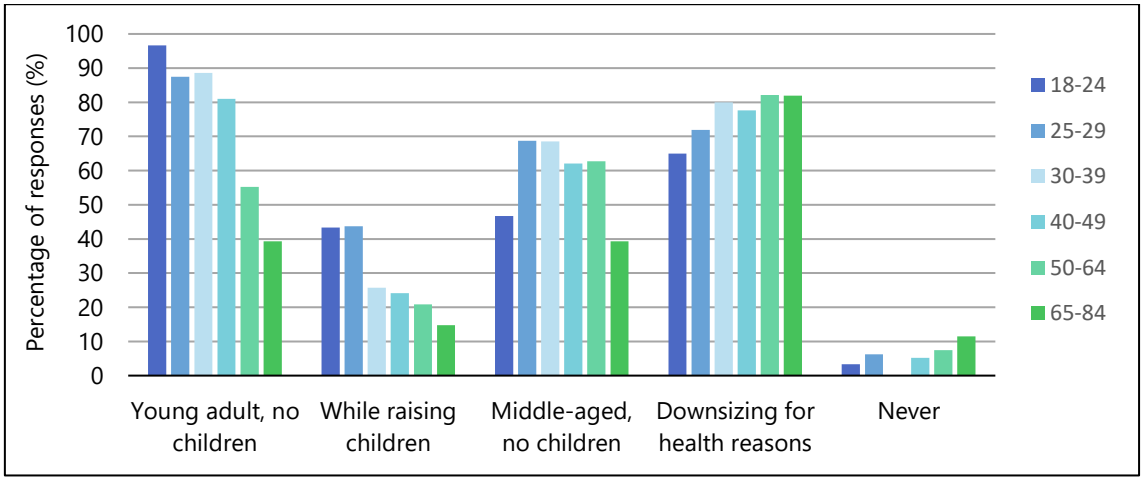

Figure 6.7 The circumstances in which survey respondents in each age group would consider living in MDH.

Figure 6.8 shows that overall, respondents were more likely to consider living in lower-density typologies of MDH. The percentage of participants who selected 'nowhere' for 4–6 storey apartment buildings (16%) was more than double the percentage for 2–4 storey apartment buildings (7%) and more than triple the percentage for attached townhouses (4%). Attached townhouses were more popular throughout Dunedin compared to apartment buildings, and the most popular option overall was an attached townhouse in the inner suburbs, selected by three-quarters of respondents. Nearly 70% of respondents said they would consider living in a 2–4 or 4–6 storey apartment building in the inner city, but few said they would consider living in an apartment building in the outer suburbs. However, 60% of participants said they would consider living in a 2–4 storey apartment building in the inner suburbs, and a smaller but not insignificant percentage (27%) chose the option of a 4–6 storey apartment building in the inner suburbs. Overall, these results suggest that respondents are most likely to consider living in an apartment building up to 6 storeys in the inner city, and in an attached townhouse or 2–4 storey apartment building in the inner suburbs. Although nearly half of respondents would consider living in an attached townhouse in the outer suburbs, the prospect of living in MDH in these parts of the city seems generally less attractive.

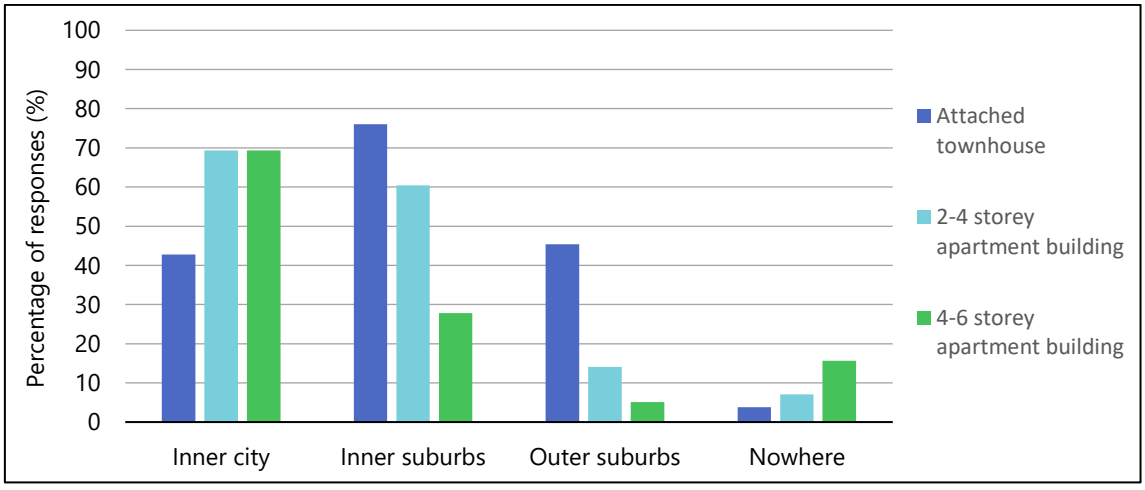

Figure 6.8 The type and location of MDH that respondents would consider living in.

With the exception of 2–4 storey apartment buildings in the inner suburbs, all MDH typologies were generally more popular among younger respondents in the inner city and inner suburbs (Figure 6.9). This is particularly pronounced when it comes to attached townhouses in the inner suburbs, 2–4 storey apartment buildings in the inner city, and 4–6 storey apartment buildings in the inner city and inner suburbs. Additionally, only 2%

of 18–24 year olds said they would not live in a 4–6 storey apartment building, but this percentage is at least 10% for all other age groups and is over 20% for respondents aged 50 or older. Together, Figure 6.7 and Figure 6.9 suggest that respondents under 30, and especially those aged 18–24, were more willing to live in MDH; they considered living in it in a wider variety of circumstances and would consider living in a wider variety of densities. Figure 6.9 does suggest, however, that 18–24 year old respondents may prefer to be more centrally located.

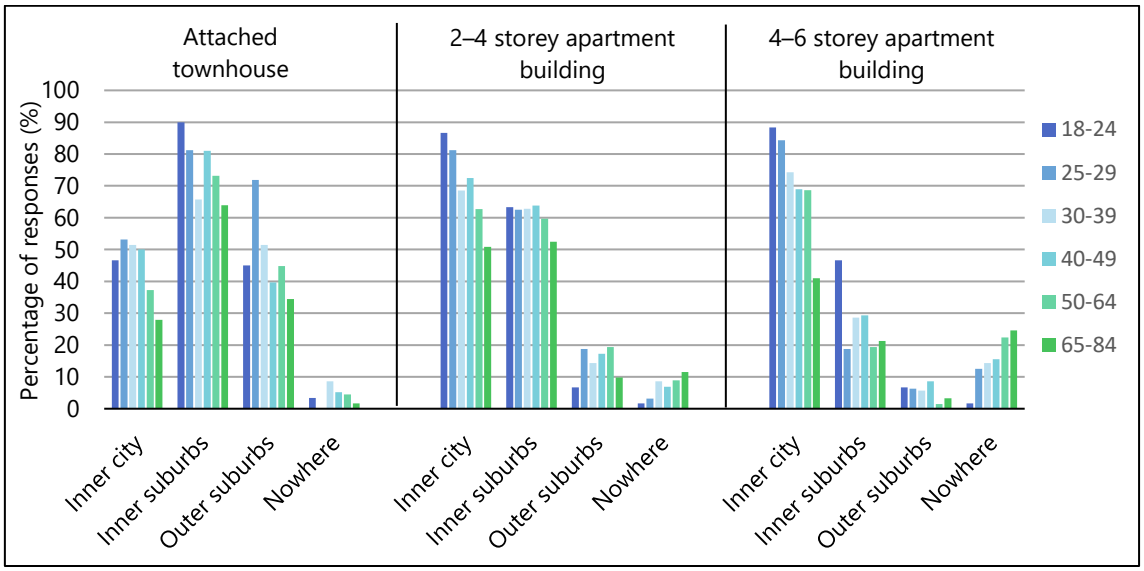

Figure 6.9 The type and location of MDH that survey respondents in each age group would consider living in.

6.3.2 Advantages of living in MDH

Figure 6.10 shows that most respondents thought there were advantages to living in MDH; only 3% said there were none. The most commonly selected advantages by a considerable margin were that living closer to town is more convenient (if MDH is in or near the inner city) (80%) and that a smaller home is easier to take care of (72%). They were also selected by more than 60% of respondents of all ages, making them the most widely appealing advantages across age groups (Figure 6.11). The third most commonly selected advantage was that having a small private garden and/or communal open space is easier to take care of than a large private garden (55%). This suggests that most respondents see MDH as potentially offering a more convenient lifestyle. Around half of respondents selected "it's more affordable" and "it's a more environmentally-friendly

lifestyle," while the least commonly selected advantages, "living closer to town is more pleasant than living in a low-density suburb" and "living closer to people" were selected by nearly a third and nearly a quarter of respondents, respectively.

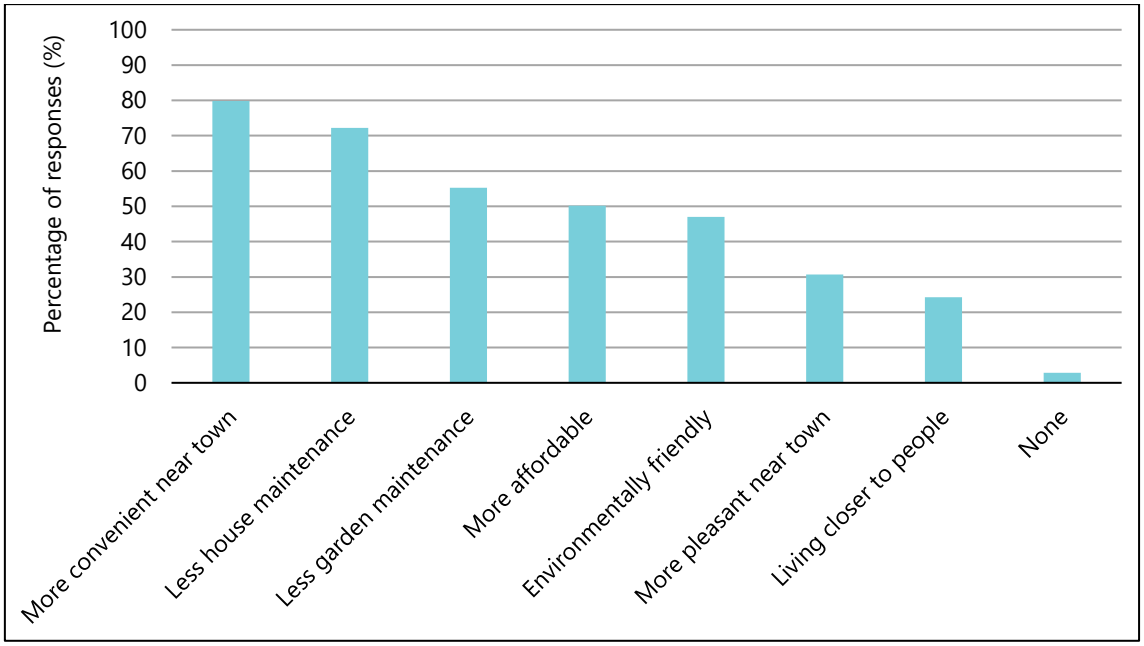

Figure 6.10 What survey respondents saw as the advantages of living in MDH.[2]

Interestingly, the percentage of respondents who thought an advantage of living in MDH was that it was more affordable and environmentally-friendly declined as age increased (Figure 6.11). These were the only clear trends, although compared to other age groups, notably more 30–39 year olds selected "a smaller home is easier to take care of" and fewer 18–24 year olds thought having less garden maintenance was an advantage.

[2] The advantages presented in Figure 6.10 and Figure 6.11 have been abbreviated. In full the options presented to respondents were: living closer to town is more convenient (if it is located in or near the inner city); a smaller home is easier to take care of; a small private garden and/or communal open space is easier to take care of; it's more affordable; it's a more environmentally-friendly lifestyle; living closer to town is more pleasant than living in a low-density suburb (if it is located in or near the inner city); living closer to people; there aren't any.

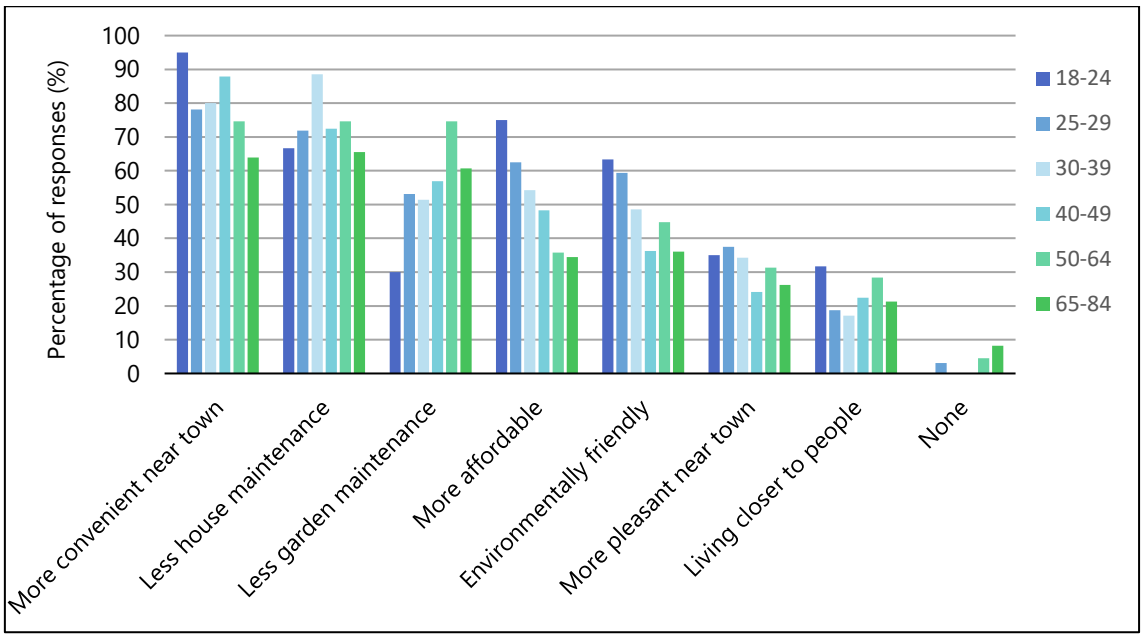

Figure 6.11 What survey respondents in each age group saw as the advantages of living in MDH.

Convenience

The interview results suggested that not only may most respondents think living in MDH can be more convenient, but that for many, this may be one its main attractions. Interviewees particularly emphasised the attraction of living closer to town, although they also discussed convenience in terms of having less house and garden maintenance.

Several interviewees thought living in MDH would be more convenient if it was closer to town specifically because it removed the need to drive to work. For instance, OC2 (40–49, F, OS) mentioned that driving from his home in West Harbour into the CBD where he works is an annoyance, and that if he lived in MDH he would want to live within walking distance of the CBD. A few other interviewees made particularly pertinent comments on this topic, including ON2 (40–49, F, IC), who described how fortunate he felt to live close to town and not have to drive to work. To him, this was the main advantage of living in MDH, although he was able to enjoy it while living in a standalone house.

> *"Every morning I get up and look out the window down Portsmouth Drive, and you see this huge backlog of cars…And they're all sitting there, for I don't know, half an hour or an hour, whatever it takes, fighting their way through traffic and getting grumpy about it…to find a park, to fight*

to find somewhere to park. And I just have a cup of coffee and then walk to work." **(ON2, 40–49, F, IC)**

"Just being able to walk everywhere you wanted to go—walk to work, walk into town, that'd be quite good." **(OC3, 40–49, F, OS)**

"The idea of not having commutes and things—oh God, the idea of sprawling cities where everyone's driving more, but all to the same place and then fighting for parking. That's just such a waste of our lives I think." **(AC1, 25–29, C, IC)**

Some interviewees also mentioned that living closer to town is particularly advantageous for people who cannot drive or who choose to drive less or not at all. OC3, AC3 and AN1 all us cycling as a mode of transport, and AN1 does not drive at all. Both OC3 (40–40, F, OS) and AC3 (65–74, C, IS), live in the suburbs, and for them this is close enough to cycle to and from the inner city, although it is worth mentioning they also own cars. However, OC3 recognised that for many people living on a hill was a deterrent from cycling, and indeed, AN1 (18–24, N, IC) chose to live in an attached townhouse in Dunedin Central partly because having an electric bike as his only vehicle meant he needed to live somewhere "not too uphill." He and OC3 did also note that how convenient it is to live in different parts of the city is influenced by the adequacy of public transport, an issue that is discussed further in Section 6.4.3 and Section 6.5.1. Additionally, AC1 (25–29, C, IC), based on her work as a health and disability needs assessor, emphasised how advantageous it was for disabled residents unable to drive to live in or near the inner city, which is discussed further in Section 6.4.2.

Another frequently mentioned advantage of living in centrally located MDH was being able to easily access urban amenities. In fact, several interviewees said that if they chose to live in MDH it would be specifically to enjoy an urban lifestyle. ON3 (40–49, O, OS) made a comment encapsulating this view; he was not eager to move from his home in West Harbour but would consider living in an apartment "right in the middle of the city because I'd be choosing to be there so I could just wander out and get a coffee." A few interviewees expressed a similar view but were more inclined to live in an attached townhouse in either the inner city or inner suburbs. It is important to note that as well as being seen as one of the main attractions of living in MDH by these interviewees, being

centrally located was frequently described as the feature of MDH that outweighed the disadvantages of living in it. For instance, AC1 (25–29, C, IC) said if she would only live in an apartment building if it was in or near the inner city, as being able to "meet people at pubs or public parks and things" would outweigh the disadvantage of having less floor space.

It is worth mentioning that interviewees who thought that living closer to town was more pleasant than living in a low-density suburb typically thought this because of the convenience of being centrally located. Additionally, it is interesting that the convenience of living closer to town was seen as an advantage not only by respondents of all ages, but also by the interviewees in the 'opposed, no change' group, who were generally less enthusiastic about living in MDH. ON4 (65–74, F, IS) thought living closer to town "could be fun if you were young and wanted to party, and you're not drink driving…you can basically just roll home," although he would never choose to live in MDH himself. Similarly, although ON1 (30–39, F, IC)would only live in MDH when downsizing for health reasons, she thought that living in or near the inner city was appealing to young professionals who wanted an urban lifestyle.

Regarding the convenience of having less house and garden maintenance, most interviewees thought this would be a greater advantage for younger and older adults without children. AN2 (40–49, F, OS) commented that she could not see her 18 year old son "getting our and wanting to do the lawns and garden," and ON1 (30–39, F, IC) thought that young professionals seeking an urban lifestyle would prefer to have a low-maintenance house and garden. With respect to garden maintenance, OC2 (40–49, F, OS) mentioned that when he and his wife want to do less gardening, they are likely to retire to an inner city apartment, while ON1 and OC4 (65–74, O, IS) said they would only live in MDH when they were not physically capable of maintaining a large private gardening.

Only a few interviewees thought that having less house and garden maintenance would be a significant advantage to them currently. AN1 (18–24, N, IC) was the only interviewee who felt having a smaller, lower-maintenance house was an advantage to him now. He said that even in comparison to living in a standalone house where chores are split between five or six people, "one of the things I've found having moved into a smaller space, is that I'm doing far fewer chores." OC1 (25–29, C, IS) mentioned that as someone with limited gardening skills, in many ways it would be ideal for her to have relatively

small area of private open space and a larger communal open space so that she could enjoy having a large garden without having to maintain it. AC1 (25–29, C, IC) thought that although a low-maintenance lifestyle was probably particularly appealing to younger and elderly residents, it could suit any life stage:

> *"I think it can cater to any life stage…whether that's a student who's got enough on their plate with studies and social life, but also just developing all those independent living skills and stuff…When you're middle aged or raising families you might need a lot of space, maybe it's hard to live in MDH. At the same time, maybe that's a time when you're really busy and you don't need all that [maintenance]. And at the same time, when you're an older adult, your body's letting down on you a bit, maybe that's a time when you're really sick of people and you really want your privacy most, but in my mind that's a really appropriate time to be offered that downsizing opportunity, where you can just focus on what matters most to you."*

Affordability

This discussion of MDH affordability is focused on whether interviewees thought that an advantage of living in MDH is that it is more affordable compared to standalone housing. Most interviewees thought that this was the case, and that along with convenience, this was one of its main attractions. Six of the thirteen interviewees said that at some point in their lives they had chosen to live in higher-density housing at least in part because it was more affordable. Usually this was when they were renting; ON1 (30–39, F, IC) for instance, chose to live in a 35 m^2 apartment in Auckland Central when she first moved to New Zealand due to the rent being low. AC1 (25–29, C, IC), however, had bought an attached townhouse as their first house "because it was affordable," despite the house and the neighbourhood lacking visual appeal. Several interviewees said that given Dunedin's declining housing affordability, they could see people making a similar choice: trading-off other preferences and choosing to live in MDH if it was cheaper than standalone housing, especially if it meant they could own their own home. For instance, ON3 (40–49, O, OS) thought that for most people, living in MDH would be less about

lifestyle preferences and more about having "an affordable way to get their own place." Similarly, OC3 thought living in MDH might become a necessity for most people seeking to buy a housing, saying "affordability-wise, it's just how it is now, people can't afford lots of land."

However, interviewees also frequently mentioned that MDH is not always more affordable, and this may be a large part of the reason that "it's more affordable" was not selected as an advantage by more than half of respondents. OC1 (25–29, C, IS) made some particularly pertinent comments on this issue, saying that—at least in Dunedin—MDH is often poor value for money:

> *"I think having a standalone house is more valuable than living in a little apartment, but those apartments can still be really expensive, and I've never really understood why that is…there are some great apartments, right, but then I think, 'this is like a quarter of the size of my house!' So, how do I justify this?"* **(OC1, 25–29, C, IS)**

OC1 also referred to her own experience of living in MDH, describing how the rent of her studio apartment was a relatively affordable $250 per week when she lived there, because "this was [the landlord's] first time renting it out, and they had no idea of prices…but then they realised how much money they could make, and the people going in next year had to pay $360." She thought she would have been unlikely to choose to live in the apartment at such a high rent, saying, "why would I want to pay $360 [per week] for this little room with a shared bathroom when I could go into a house and pay the same?" She felt that more people would be interested in living in MDH if it was more affordable than a standalone house, and this was echoed the comment of one survey respondent, who said:

> *"The major determinant for me in supporting more MDH and choosing to live in MDH would be affordability. It would need to cost me less than a standalone house of similar quality."*

The environmental impact of housing choice

Less than half of survey respondents selected "it's a more environmentally friendly lifestyle" as an advantage of living in MDH, making it one of the least commonly selected advantages. Reflecting this, only a few interviewees linked housing choice to the environmental impact of people's lifestyles, although most thought that building more MDH could have environmental benefits (see Section 6.4.2). Three interviewees thought that living in MDH was more environmentally friendly as it enabled more efficient use of land. AC3 (65–74, C, IS) said "we're building bigger and bigger houses for fewer and fewer people. It's a waste of resources," while AN1 (18–24, N, IC) thought that a typical 3–bedroom standalone house on a large section "is absolutely not suitable for one person, or even arguably a childless couple. I've got an aunt and uncle who have a standalone house on a section, and it's good, but also the spare room's an office, you know." Similarly, OC3 (40–49, F, OS) mentioned that MDH might not be "massive" but could "have what you need." OC3 also pointed out that whether living in MDH is more environmentally friendly depends on its design and management:

> *"Particularly if you're in town, the need for a car, or two cars, disappears…I think that would be helpful. I was sort of assuming that they would be new builds, and so it would be much more efficient building and efficient heating...composting and stuff, I guess that would be a negative, you may not be able to do that."*

AC1 (25–29, C, IC) was alone in making quite a different point: that individual resource consumption could be reduced if MDH provided for a more communal lifestyle:

> *"I envision people sharing not just greenspaces, but all of their kind of resources that they've got—not everyone needs to have a lawnmower, not everyone needs to have a power drill or something. You know, everyone can still have their own individual things, but just finding that balance about what you can share, and what's really just consumerism—'oh, I don't have that therefore I'll buy it.' It's like, 'do you really need it?' And how much of [an impact] that difference in our perspectives could have on the environment would be great as well."*

Sense of community

The interviews suggested that the sizeable minority of respondents who thought that living closer to other people was an advantage of living in MDH were drawn to MDH because it would provide more opportunities for social interaction and a greater sense of community. The interviewees who thought this was an advantage also mentioned that, along with the convenience of living closer to town, was something that made living in centrally located MDH more pleasant than living in a low-density suburb.

AC2 (30–39, C, IS) had spent around ten years living in MDH prior to buying her first home. Her decision to live in MDH was influenced by cost, but also the desire "to be around social interactions and potential social friendship type things as well." AC2 did found that living in MDH did provide this sense of community: she had good neighbours in both the attached townhouse and apartment building, and the apartment building in particular "was a nice little community of like-minded, creative people when...and then the landlady upstairs was kind of the mum to a few of the people." After a number of years, some of her close friends who had lived there long term moved out, and "it wasn't the same feeling anymore," but this was not presented as a major problem. AC2 also explained that although she bought a standalone house, she lives in a denser part of North Dunedin that is not "typical suburbia." This was an intentional choice; she feels that denser housing has the potential to foster a greater sense of community compared to typical suburbia:

> *"It's just my bugbear of suburban living, where everyone just drives into their suburban house with their SUV and then they do all their house things, and then they leave their house in their SUV and drive to the dairy or drive to wherever they're going and there's no community, there's no like 'I go out of my house and say hi to my neighbour or I say hi to the person over there or the person who walks his dog every day at the same time.' That was one of my reasons for wanting to live in the places that I rented, and I never really wanted to buy a house in Maori Hill or Belleknowes or Roslyn, unless it was more of a medium-density feel."* **(AC2, 30–39, C, IS)**

Although they did not have the same "bugbear of suburban living", a few other interviewees made similar comments. In particular, AC1 (25–29, C, IC) described herself as "a very social person" and thought that she would "thrive" in MDH. Along with the convenience of living closer town, the prospect of having a greater sense of community was one of the main advantages of living in MDH to her. Although OC3 doubted that she would choose to move from her standalone house into MDH now, she did think that it could be very appealing for the same reasons as AC1, saying:

> *"I think the positives [of living closer to people] are just community, relationships, friendships can develop. There's more connection and cohesiveness between people. There's a chance to know people, other people to know you, there's more chance of sharing kid duties around, people being able to help in our increasingly fragmented society, particularly for solo parents or whatever, it would be really neat to just have that, sort of a few people around that you can rely on, that are really close by."* **(OC3, 40–49, F, OS)**

Other interviewees agreed that living closer to other people could provide more opportunities for social interaction, but in general, did not think it was an advantage. However, they did think it could be advantageous to younger and older adults. OC1 and AN2 made several comments that articulate this view. OC1 (25–29, C, IS) mentioned that when she lived in MDH she was still living near her family and friends and so having more opportunities for social interaction was not something she was looking for. However, she thought that for people in a different situation, especially young single people in a new city, "it's really important to have that person to talk to when you bump into them in the hallway or whatever…it's a really good way for them to have that sense of community and someone to talk to and interact with." Regarding older adults, AN2 (40–49, F, OS) thought that MDH was ideal for those who "are pretty independent but want a bit of company," and OC1 thought that attached townhouses in particular allow older residents to "still have that community, they can go and knock on their neighbour's door for sugar or whatever they used to do back in the day."

6.3.3 Disadvantages of living in MDH

Although the above sections suggest that most respondents thought living in MDH does have advantages and would consider doing so, Figure 6.12 clearly shows that the vast majority of respondents thought it has disadvantages. Lack of privacy was the most commonly selected disadvantage, chosen by 64% of participants. Four other disadvantages were selected by at least half of respondents, three of them being excessive noise, lack of natural light, and living closer to other people. Comparatively fewer respondents selected "it's often poorly designed" or (33%) or "it's often poorly constructed" (23%). This suggests that a considerable number of respondents may believe lack of privacy, excessive noise and lack of light are inherent disadvantages of living in MDH and unaware that they are influenced by design and construction quality.

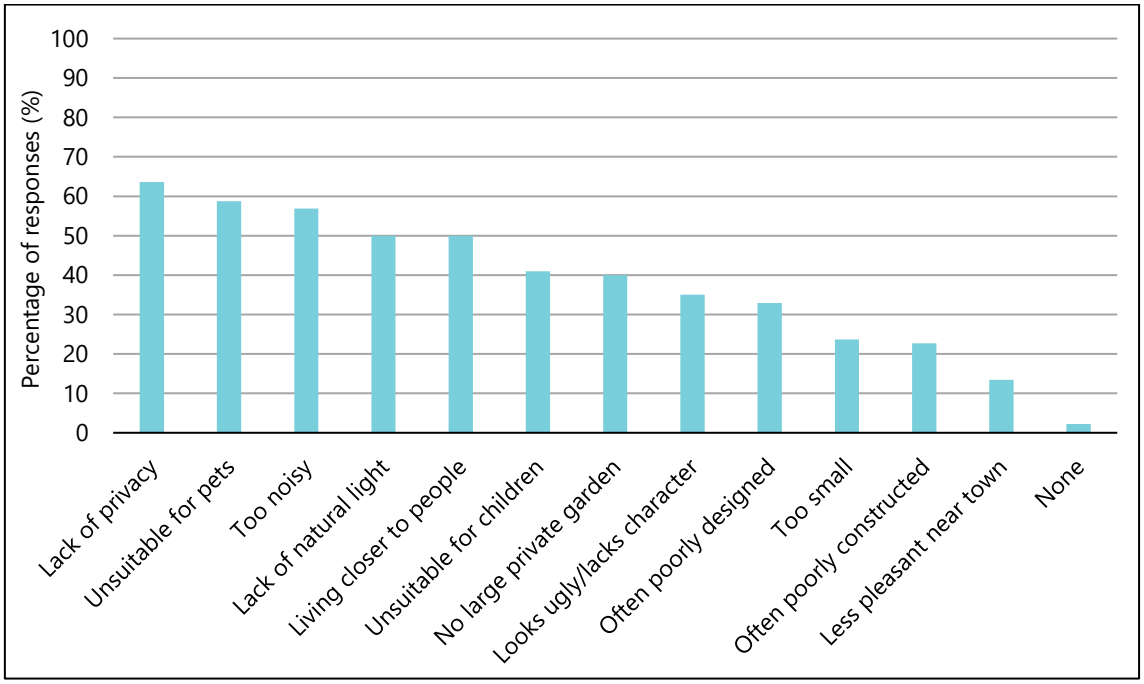

Figure 6.12 What survey respondents saw as the disadvantages of living in MDH.[3]

Interestingly, the second most commonly selected disadvantage was that MDH is not suitable for most pets (57%), whereas only 40% selected "not having a large private

[3] The advantages presented in Figure 6.12 and Figure 6.13 have been abbreviated. In full the options presented to respondents were: lack of privacy; not suitable for most pets; too noisy; lack of natural light; living closer to other people; not suitable for children; not having a large private garden; it often looks ugly and/or lacks character; not enough floorspace; it's often poorly constructed; living closer to town is less pleasant than living in a low-density suburb (if it is located in or near the inner city).

garden", suggesting that not all respondents may think this is necessary for MDH to be suitable for pets. Similarly, 41% selected "not suitable for children," while only 24% of respondents thought that inadequate floor space was a disadvantage of living in MDH. This may indicate that around 20% of respondents think having less floor space would suit their needs and/or that they are aware that MDH is not necessarily small, and think it has other features that make it unsuitable for children.

Just over one third of respondents selected "it's often ugly and/or lacks character" as a disadvantage of living in MDH, suggesting that these respondents did not agree that MDH is often ugly and/or lacks character and/or this was not a key consideration for them when deciding where to live. Finally, only 13% of participants selected that living closer to town is less pleasant than living in a low-density suburb, if MDH is located in or near the inner city.

There were no clear trends between age and the disadvantages respondents selected. However, there are several noteworthy points in Figure 6.13. Notably fewer respondents aged 65 or older selected "not suitable for most pets" as a disadvantage, while more 18–24 year olds selected "lack of natural light", and more 25–29 year olds selected "too small" compared to other age groups.

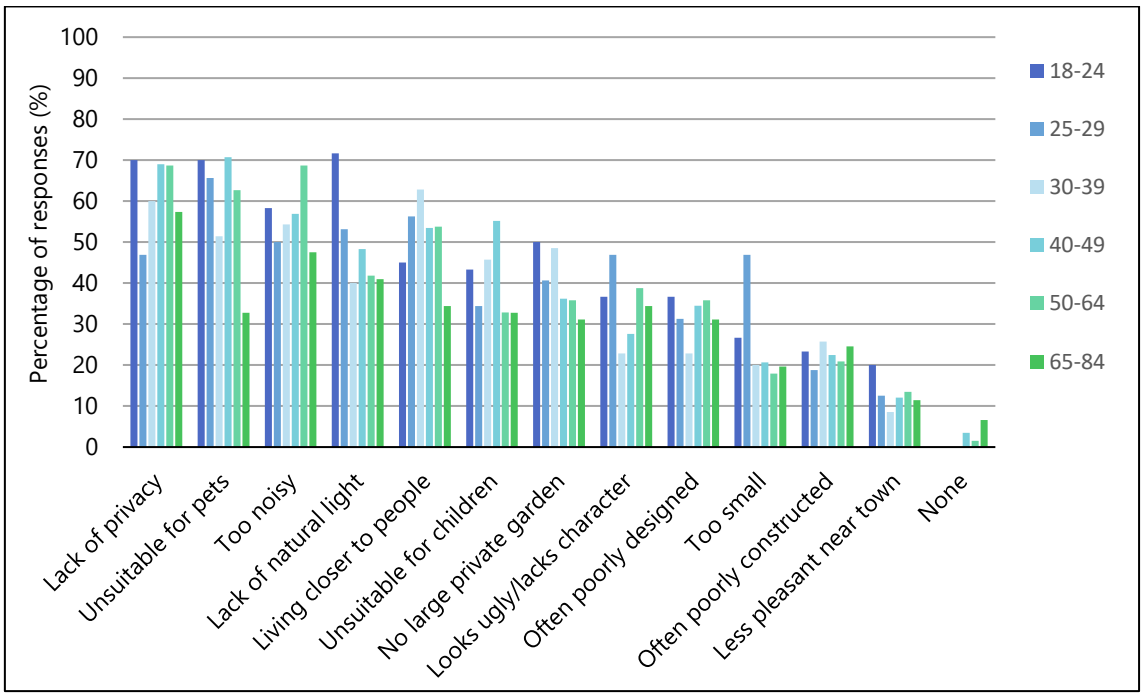

Figure 6.13 What survey respondents in each age group saw as the disadvantages of living in MDH.

Privacy and noise

From the interviews, it was clear that concerns about privacy overlapped with other issues such as noise, having private open space, and simply living closer to other people. Interviewees who said that living in a low-density suburb was more pleasant than living closer to town often thought that lack of privacy was a key reason for this. Interestingly, most interviewees discussed the disadvantage of lacking indoor privacy in terms of acoustic, rather than visual privacy, and emphasised the importance of having minimal noise transfer between dwellings. Table 6.4 below contains some key comments made by interviewees on this issue, including AN2's and OC1's personal experience of living in MDH that lacked acoustic privacy. It is important to note that among all the interviewees, only ON1 and ON4 thought that design and construction quality could not ensure sufficient acoustic privacy, with ON1 saying that in attached townhouses "you can even hear each other talk...I don't think any noise cancelling glass can stop that."

Table 6.4 Interviewee comments on noise and acoustic privacy in MDH.

AN2 **40–49, F, OS**	"I suppose if you come home from work and you just want a wee bit of quiet time, you don't want to hear the neighbours. And I found that living in an attached complex...you could hear people all the time...[but] if planned well, it could be avoided."
OC1 **25–29, C, IS**	"When I lived in that apartment...the walls were very thin...The guy that was in the room right next to me, he was all good—well, you heard everything, pretty much, but it wasn't anything bad. But then there was a guy he subletted his room to for the holidays...and this guy, he would yell through the wall saying, "turn down your TV down!" when it wasn't loud and stuff. And it was things like that, like having conversations with friends, it was just annoying having someone that can hear you that well."
ON3 **40–49, O, OS**	"Not to be unneighbourly, but I do like to just sort of have my own space, and peace and quiet, if at all possible...I wouldn't mind living in the apartment right in the middle of town, as long as if I shut my balcony door, I couldn't hear a thing: no noise from the neighbours through the walls, no steps above me, no music through the walls or below me. That really annoys me."
AC3 **65–74, C, IS**	"It's got to be designed and built in such a way that families can retain a sense of privacy. That means that if they're having a bit of a family row, the neighbours aren't forced to listen to it all, or able to listen to it all."

Only two interviewees discussed MDH having a lack of indoor visual privacy in terms of people being able to see into nearby dwellings. They described the same issue, but had very different views on it; ON4 felt that he should not have to be mindful of privacy in his own home, whereas AC1 simply accepted this as a part of living in MDH, and also thought that good design could ensure it was not too much of a problem:

> *"I get up in the morning about five, and spend two or three hours working, and all I do is put my shirt on. We've got two cats, and I give them biscuits and let them out...But that's what a home is: you can run around in your undies. Here you wouldn't be able to, you're on edge about what you can do and what you can't do. Like, you come home wet through, you take your shirt off—you can't do all that without 'oh, I've got to pull the curtains.'"* **(ON4, 65–74, F, IS)**

> *"I imagine a lot of MDH you need to actually use your curtains, like you need to, it's not an option...just things like that, that maybe you take for granted if you don't live quite so close or you've got fences up between your neighbours. I just see living in MDH as you just have to be a bit more mindful of that sort of thing."* **(AC1, 25–29, C, IC)**

Several interviewees talked about privacy specifically in terms of having to meet people as they went to and from their homes. OC4 (65–74, O, IS), for instance, when asked about what she would lose if she moved into MDH, said privacy. However, her only real concern in this regard was that "it's a wee bit weird, meeting people in lifts and stairwells." Similarly, ON3 (40–49, said "I just sort of feel more trapped in by other people, I suppose. I like to just be able to come and go as I please, and not have to necessarily acknowledge people as I come and go."

Interviewees also frequently expressed a desire for a sense of space in a more general sense. They felt that living in MDH could lead to a feeling of being "jammed in" or "trapped" by other people, or even "claustrophobic." Some interviewees thought this could be made a negligible problem or solved entirely if MDH was well-designed. For instance, although OC2 (40–49, F, OS) was concerned that he would feel like he was "living in a fishbowl," this problem could be solved by designing MDH so that "you're looking across at green rather than looking across at another building, so there wasn't so much that sense of being in a fishbowl." Others thought they would feel trapped regardless of the design of MDH. ON4 felt especially strongly about this, saying:

> *"Well, I suppose I 've always been an open-air type person; even if I'm living in a house that has a house above it, I get claustrophobia, it's that sort of feeling. So, to live in that sort of medium density, close*

> *proximity…not for me…It honestly wouldn't worry me if I never saw anybody for a year, I wouldn't turn the TV on, I enjoy silence, quiet. Listening to birds, bees buzzing is music to me."* **(ON4, 65–74, F, IS)**

A few interviewees felt that for them, privacy was not much of an issue when it came to living in MDH. To AC2 (30–39, C, IS), there was no real difference in the privacy of living in many standalone houses and MDH. Regarding visual privacy, she noted that attached townhouses seemed no less private than a standalone house with a small setback from the street, where people can see in your windows or see you when you are in your front yard. Being able to hear people in adjacent dwellings did not bother her, and she said, "I just think that if you're going to live in a multi-unit place, then you've got to accept that you're going to hear your neighbours…and it's kind of nice." However, she did acknowledge that she had only lived in very old MDH and that in modern housing you would have better acoustic privacy.

AN1 thought that MDH would have adequate acoustic privacy if it was well constructed and did not see it as lacking visual privacy. Having spent the previous four years flatting with multiple other people, he felt that MDH was more private than sharing a flat because it meant you had an entire dwelling to yourself. He commented that "yes, you're sharing a building with however many hundred people…but that doesn't really matter because you're not having to put up with those people in your day-to-day life, aside from potentially the ones right next to you." He also did not find living in an attached townhouse less private than a standalone house when it came to his neighbours, saying:

> *"I have never felt privacy issues with any of the other people [living in adjacent attached townhouses]. I might see them as I go by when I'm leaving, or I can see the next flat's washing line from my window. But that's not a huge deal, that's not less private than anything else. And to me, that's actually more private than living in a fully detached house with a bunch of other people. Especially a bunch of other strangers."* **(AN1, 18–24, N, IC)**

Floor space

Most interviewees mentioned MDH being too small in relation to having children, which is discussed below in relation to the suitability of MDH for children. Two of the interviewees who discussed lack of floor space more generally explained that their personal experience of living in MDH was that it was slightly too small for their needs. However, they did not think that this was intrinsic to MDH:

> "I suppose, the space that I lived in was just too small. Like your lounge, bedroom and everything is the one space, plus a little door for the bathroom. With apartments and stuff, they were definitely huge, the ones that I've seen." **(OC1, 25–29, C, IS)**

> *"I felt like I thought it was going to feel more cramped than it was...Like, I do feel like that would be one of the biggest downsides of an apartment building, like if you ended up in lockdown, that lack of space."* **(AN1, 18–24, N, IC)**

On the other hand, ON1 (30–39, F, IC) associated standalone housing with having a lot of floor space and higher-density housing with having a small space. Comparing the small apartments and the large standalone houses she had lived in, she said, "I like living in a big space." Similarly, ON4 (65–74) said that although a smaller house might be easier to take care of, "I've gotta have space,' and that although his wife has suggested having a year's holiday in a campervan, "for every reason she has for us to get one, I have five not to, just because of that confined space."

It is worth pointing out, however, that although lack of floor space would not deter them from living in MDH, several other interviewees indicated that they thought MDH was always smaller than standalone housing. OC2 (40–49, F, OS), for instance, said that if he did decide to live in MDH, he would "obviously be accepting that it would be quite small," and others made similar comments.

Open space and green space

All the interviewees thought it was important to have access to open space, including green space, but they did not all feel that this space need to be a large private garden.

This may be why only a minority of respondents thought that not having a large private garden was a disadvantage of living in MDH. The kind of open space that interviewees wanted depended on how concerned they were about privacy and living closer to other people, and why they valued having access to open space.

Several interviewees wanted open space for gardening, and they had different views on what kind of space would be suit them. In the survey, AC1 (30–39, C, IS) selected "not having a large private garden" as a disadvantage and said, "the ability to design my own garden or green space, and grow my own vegetables is really important in my decision." She elaborated on this in the interview, saying "it's nice not to have to worry about what other people think of your gardening, or have to negotiate with people when you actually don't know what you're talking about". However, she did not think that she needed a space the size of a traditional quarter-acre section and thought she could garden in a smaller back yard that came with MDH. Similarly, AN2 (40–49, F, OS) wanted her own back yard, and felt that although in an ideal world she would like a large private garden, the constraints of working and looking after her children meant that she would not be able to maintain anything larger than her current eighth of an acre. She thought that the mix 'of a small private yard and a larger communal open space could be "pretty perfect." AC3 (65–74, C, IS) thought this could be increasingly common view:

> *"I think the thing is there's not too many people these days who do want quarter acre sections; they have to work so hard to pay for their handkerchief size that they can't afford or look after a quarter acre"* **AC3 (65–74, C, IS)**

On the other hand, AC1 (25–29, C, IC) felt that having a completely communal open space that she could garden in would "work equally well" for her, as she would be happy to garden with other people and even thought it could be a good way to improve her gardening skills. She did emphasise, however, that having access to open space that could be used for gardening was very important to her and was a key reason she and her partner bought a standalone house when they moved to Dunedin. ON2 and OC4 preferred having a larger private open space for gardening. For OC4 (65–74, O, IS), having a large garden was a way "of trying not to age, to stay fit and have physical work to do that's not the gym, which I don't like." ON2 (40–49, F, IC) simply said that his wife enjoys

gardening, and that anything smaller than their current large garden would not be sufficient.

Interviewees also mentioned the importance to them of having open space for recreation other than gardening, and most said it was important to have private open space where they could spend time outside by themselves. Usually, however, they thought this space did not need to be a large private garden, and that it could be provided in MDH:

> *"The privacy and that ability to have a bit of space to yourself, and just to get outdoors and you know, if it's a sunny afternoon, just stand outside and have a glass of wine or whatever…if MDH can be done in such a way that it still provides for that, then that's just something that needs to be considered in the design, rather than just doing the bare minimum."* **(ON2, 40–49, F, IC)**

> *"Walking outside and there's someone already outside having a coffee kind of thing. Yeah, I think it could be worked around, but it's not having your own private space where you think you can go out and have time by yourself."* **(AN2, 40–49, F, OS)**

> *"As far as an actual back yard…I'm quite introverted, I like my own space, I like hiding away, so for me that's important. But there's always that sort of cool idea, like apartment blocks have that rooftop garden type thing, that's such a good space for people to escape away to if they need to."* **(OC1, 25–29, C, IS)**

On another note, AN1 mentioned that although he would enjoy the opportunity to grow vegetables in raised beds, he primarily wanted open space, and specifically green space, for exercise and for a pleasant outlook. Regarding outlook, thought having green space is important "for not feeling boxed in," and that said, "something I have noticed this year is that my views are not very nice…my windows look into another flat's back yard, and it kind of makes me feel like I'm stuck in urban sprawl." His attached townhouse also lacked adequate green space for exercise, and he commented:

> *"I definitely did feel like it was a bit cramped during lockdown, just because there is no back yard, it's concrete, and that means there's not a lot of room for doing any kind of fitness stuff."* **(AN1, 18–24, N, IC)**

He pointed out that having private open space in the form of a back yard is a major attraction for people like him who want to exercise in privacy, as even if there is a public park nearby, this is not necessarily something that people will feel comfortable using. However, he also noted that for him, a communal open space could be suitable:

> *"Where I am is very close to North Ground, so the entire time in lockdown I was like 'I can go run around on North Ground,' and then I didn't. And I think part of that is just that I've still got a lot of hang-ups about being seen exercising in public—which everyone does, right, but it's also like 'you're an unfit fat dude, what are you doing running around', you know? I think the privacy of back yard gardens is a real draw. But I wouldn't necessarily object to like a central courtyard in an apartment building, like, I think that would be okay."* **(AN1, 18–24, N, IC)**

OC2 also emphasised that looking out onto green space was much more pleasant, and felt it was important that all housing provides a sense of connection with nature. In fact, the absence of MDH in Dunedin that met these criteria was a key reason that he and his partner ended up deciding not to move into an inner-city apartment. For him, having communal green space would be adequate, and he mentioned that Toiora High St Cohousing, which began only after he had decided not to move, was more appealing to him due to its central green courtyard.

A few interviewees thought that regardless of whether they wanted the space for gardening, anything less than a large private garden would not be suitable. Generally, this was because they wanted the privacy provided by a large private garden, had concerns about living closer to other people, and/or had other lifestyle preferences:

> *"I feed birds at home; I've got six tuis, probably twenty bellbirds, and could be one hundred or more little waxeyes... And that's nice wide open space...I need some big trees for the tui to sit in; you can't have a tiny little tree and that many birds, particularly that mix of birds."* **(ON4, 65–74, F, IS)**

> *"I've always loved gardens, and I've got about a third of an acre at the moment…most of the garden you can sit around in a chair with a book, none of the neighbours can see me, I can't see them: I can just sort of sit there and enjoy it. But I hate gardening…I'm in quite a privileged position, to be able to enjoy a garden without needing to work on it, but it's just nice, and you would lose that in an MDH situation."* **(ON3, 40–49, O, OS)**

> *"I think they call it a Kiwi type of life: you have a garden, then kids can run around, it's more healthy mentally, and you have a dog and everything—so I think it's very important if you want to have a true New Zealand-style life."* **(ON1, 30–39, F, OS)**

It is worth noting that ON1 was less concerned about having a large private garden when she first moved from China but has come prefer it. She also highlighted that communal open spaces can be problematic "if you have nasty neighbours," and so it is preferable to have private open space. This was something that other interviewees also brought up, although only ON1 and ON4 thought it was an inevitable problem:

> *"In some communal space it's either been trashed or it's been taken over by unpleasant people, and that leaves everybody feeling a bit trapped. Those are the downsides of multi-dwelling housing. But having said that, there are plenty of places where you can be in a standalone house and still be afraid of going outside."* **(AC3, 65–74, C, IS)**

> *"And without spelling it out too much, if somebody came home drunk, you know, what protection have you got from [a communal open space] being used as a cesspit sort of thing."* **(ON4, 65–74, F, IS)**

Suitability for pets

Although lack of suitability for pets was the second most commonly selected disadvantage of living in MDH in the survey, it was a less prominent theme in the interviews. However, they did suggest that respondents' key concern regarding suitability for pets may be access to appropriate open space. ON1 mentioned that having a large

private garden allowed her to have a dog, although she did note—with incredulity—that a neighbour of her mother's in China lives in a 100 m^2 apartment with two dogs. Three other interviewees mentioned that lack of suitability for pets was a problem for them. OC1 (25–29, C, IS) and AN1 (18–24, N, IC) thought that a back yard would be necessary for MDH to accommodate most dogs, while AC1 (25–29, C, IC) thought this would make it easier, but that even without a back yard MDH could be suitable for dogs, depending on the design of its private and communal open space.

Additionally, two survey respondents who were quite willing to live in MDH explained that lack of suitability for pets was the main barrier to them doing so:

> *"At present it's worth noting that the biggest obstacle for me to continue living in MDH is that I want to have pets and I find it difficult to imagine how that would work (except maybe at the bottom of the attached housing scale, e.g. duplex, where it's a bit more imaginable)."*

> *"My partner and I considered buying an apartment when we were looking to buy a house in 2018. Options existed but we weren't confident that we could keep dogs in that situation. This was due to limited space, lack of access to outside spaces and worries about dealing with a body corporate."*

Suitability for children

Regarding the suitability of MDH for children, a few interviewees mentioned that lack floor space was a problem, especially for larger families. OC2 (40–49, F, OS) and ON2 (40–49, F, IC) both said that they would only consider living in MDH when they no longer needed their larger family homes. Similarly, AN2 (40–49, F, OS) said, "I've got three kids of my own, and I know that they need space." However, the need for children to have easy access to appropriate open space was more frequently mentioned as why MDH is not suitable for them.

Interviewees often discussed what they thought was important for children with reference to their own childhood and/or the way they raised their own children, emphasising the importance of children being able to easily go outside and play. OC3

(40–49, F, OS), a transitional housing case worker, said that this is why she usually does not recommend MDH to families with children:

> *"To be honest, when I'm looking for homes for families, I very rarely will point them to a house that has no back yard. Sometimes you get little blocks of flats…say three bedrooms. So, if you've got a mum with a couple of kids or mum and dad with two kids, 3 bedrooms is fine, it's what you're looking for. But if it's upstairs with no access to a yard, I just don't tend to even think about them applying for it. If they came to me and said 'we're going to apply for this one', I would never say 'don't do that', but that's a mindset that I have, I just don't even go there for families."* (**OC3, 40–49, F, OS**)

However, most of the interviewees, including OC3, thought that MDH could provide open space suitable for children, in the form of a small back yard as well as access to a larger communal open space and/or access to nearby public open space, or only having access to communal and public open space. In fact, some interviewees thought that having communal space could be an advantage, as it provides children with opportunities to meet and play with other children (Table 6.5). Additionally, OC3 and AC3 said they had seen examples of MDH that seemed appropriate for raising children in, both of which were cohousing. AC3 (65–74, C, IS) remembered seeing a development in Auckland, "looks very appealing, and it looks to me like a place where it would be good for kids to grow up." OC3 (40–49, F, OS) thought the design of Toiora High St Cohousing, including its central green courtyard and location adjacent to a park, meant "it could be a winner" with respect to raising children.

Table 6.5 Key interviewee comments on the importance of children having easy access to appropriate open space, and whether MDH can provide for this.

ON2 **40–49, F, IC**	"The inability to have that open space to run around in [makes MDH unsuitable for children]. Our kids love it, we've got a trampoline, and badminton, soccer...and to me, having that ability to get outside and play is really important...but [that open space] could be shared. I think in some ways that could be even better, if it allows you to interact with other people, as long as there's really good access to that, and it's managed in some way."
OC1 **25–29, C, IS**	"For me, as a kid, I just loved having that lawn to just run around in. And when I say that, I mean at the time I didn't want to go outside, but Dad said it was sunny so I had to go outside. So, having that space to run around...but if you had access to close by facilities, whether it be a park or things, I don't see why that would be an issue."
OC4 **65–74, O, IS**	"I definitely think [MDH] is something that should be good for all stages. I'm thinking particularly of young families, I think what's critical with MDH is having parks really close by, easy walking distance. Preferably no more than 5 minutes' walk for anyone from anywhere. And not just a boring square of grass, I'm talking about a playground for kids, and trees and stuff like that."
OC3 **40–49, F, OS**	"I definitely would rather have a garden. At this stage, with 3 children, so even in our standalone house, we can't even kick a ball here, it's just too tiny. So, for me personally, nah, I like a reasonable back yard. But I do think that's less and less common. I think the attraction of having a well-designed [communal] garden space, and particularly if there's green space nearby, you know, parks, avenues, whatever, then it takes away the need to have your own garden in your back yard."
AC3 **65–74, C, IS**	"Well, I'm thinking about my own growing up, where we could just head in and out of our house through huge sliding doors. And then I'm thinking about my kids growing up in Mosgiel, we grew up in very old—or they grew up—in a very old double storey villa. And it didn't have big sliding doors. But it had space to run around. So, I think that's one key thing: there has to be easy access to good open space."

As Table 6.5 shows, a number of interviewees emphasised that the design of open space is an important determinant of whether it is suitable for children. In particular, two mentioned that open space needs to allow for creative play. AC3 thought open space associated with MDH could provide for this, while ON4 thought it could not:

> *"Maybe this is one of the downsides of MDH: there's probably not going to be the rough corners where kids can develop their own games. Whereas in the more typical property, if there's a bit of space around the house the kids will get into climbing trees and building huts and stuff. But it could depend on what kind of open ground there is around."* **(AC3, 65–74, C, IS)**

> *"[A central courtyard] is too structured. And here's my philosophy on raising kids: there's nothing like a tree or an old bush or something, and your imagination takes over what you're doing. But that playground that you're talking about is a swing set, maybe a jungle gym with a bit of foam underneath it. You know, there's no chance of climbing a tree and breaking your leg."* **(ON4, 65–74, F, IS)**

Only ON1 and ON4 thought that a large private garden was always better for children. ON4 thought that children need a large area to play in, that communal open space could not provide for creative play, and also that communal or public space was unsafe:

> *"There's just so many weirdos and wackos out there, I wouldn't feel safe, even at your age, sending you out there. I wouldn't send my grandkids out to play in that environment unless I was there. And where our kids have grown up, that's your playground, and we know that there's no-one around."* **(ON4, 65–74, F, IS)**

Although she did think MDH could be designed so that it was suitable for children, OC1 (25–29, C, IS) made a similar comment regarding the safety of communal space. She noted that the suitability of MDH for children also "depends on the people you're living with, if you're comfortable with your kids always being out there." ON1 (30–39, F, IC) also commented that safety could be an issue in general regarding suitability for children. She mentioned that when she lived in Imperial Gardens in Auckland her neighbour was a sex worker and said, "we only lived there for 6 months and we didn't have children, so we didn't have much of a concern. But if you have children and you live in the same block with people like that, then it's quite concerning."

Living closer to people

Although several interviewees thought that living closer to other people could be an advantage in terms of providing greater community, they typically thought it is also had disadvantages. These disadvantages overlapped with a number of issues, such as privacy and noise, and the impacts of having bad neighbours on safety, which have been discussed above. However, interviewees also thought living closer to other people is a

disadvantage because conflicts are more likely to arise and not liking your neighbours or having bad neighbours is likely to have a greater effect on your life. As ON4 put it:

> *"[Living in a standalone house means you can] just step away from the hustle of people, and the problems that they create. And I think that close living is where you're going to manifest any issues to boil over…they won't all be nice people."* **(ON4, 65–74, F, IS)**

Similarly, ON1 mentioned that growing up in a higher-density housing did not affect her negatively because her neighbours were nice, whereas her husband had a very negative experience, and she thought it was important to have like-minded neighbours:

> *"My husband, when he grew up in Australia, he lived in Melbourne, so he lived in small apartments too, and the next-door neighbours, they were alcoholics, and their daughter is similar age to him. He's gone through a lot of stress watching the daughter be abused by the alcoholic parents. So, if you have that sort of neighbour, it can impact on your life... it's nice if you have similar type of like-minded families living together, say professional families, middle-class families. But imagine if next-door there's a family of drug addicts or something."* **(ON1, 30–39, F, IC)**

For OC4 (65–74, O, IS), the potential to be in comparatively close quarters with a bad neighbour was one of the biggest disadvantages of living in MDH, because "if I had a neighbour who I disliked, that could really interfere with my wellbeing." On the other hand, OC2 was less concerned with the disadvantages of living closer to other people; although he thought having bad neighbours could be a problem, this concern was not a barrier to him living in MDH:

> *"So as long as there's not a neighbour that's creating a nightmare for everyone, then I'd be fine. I don't feel like I need to be friends with next door neighbours—I want to be friendly with them, and hang out with them even, but it's like your family. You don't choose your family, but you hope you can get on with your family…you don't choose your neighbours…but you just hope that they're nice people that want to have a good life like you."* **(OC2, 40–49, F, OS)**

Pleasantness of living in a low-density suburb

As was mentioned above, interviewees typically mentioned low-density suburb being more pleasant in the context of MDH and lacking privacy. However, a few also thought this was because there is a greater sense of community in low-density suburbs, particularly ON2 and ON3. ON2, however, mentioned this more in relation to the lifestyle preferences of people living in the inner city, and thought it depended to an extent on whether the design of MDH facilitated community.

> *"I suppose if you did want to be neighbourly, you don't have so many of you packed on, so you've got more of a chance to get to know the fewer people that are around you, people have gardens and things like that."* **(ON3, 40–49, O, OS)**

> *"Central city living, it seems to be more, people keep to themselves…we have some really good friends who we've made since we've been here. But there are also other people who just will not engage, and don't want to engage, which is fine, but I just find it a bit sad to not have people you see on a regular basis, to not be able to just 'how's it going', and just part of being a community, in my mind."* **(ON2, 40–49, F, IC)**

Additionally, although she generally thought MDH offered opportunities for more social interaction and a greater sense of community, AC1 was concerned about the level of transience in MDH and thought that low-density suburbs may have greater community simply because people tend to stay there longer. However, she thought in large part this was down to whether MDH was well-designed, and therefore somewhere that people actually wanted to stay:

> *"If it can just be really well done for sustainable living, but also a place that people feel at home and they want to stay, and it's not like they're thinking 'oh I would have stayed because I really liked that neighbour but all these other things,' or the lift was always broken—like it just wasn't worth living there, or I'd rather go elsewhere or something."* **(AC1, 25–29, C, IC)**

Similarly, one survey respondent commented that MDH "needs to enable some permanence for the people living in them, even if renting. To allow for community connections to be established and maintained."

It is also interesting to note that interviewees such as OC1 (25–29, C, IS) and ON3 (40–49, O, OS) thought that living in a low-density suburb was more pleasant, but also disliked many new housing subdivisions, which have large standalone houses on relatively smaller sections. In fact, several interviewees brought up the housing subdivisions in Mosgiel, and said they were no better than MDH in terms of access to open space, privacy and visual appeal. ON3 even said he would prefer to live in an inner city apartment than in a typical Mosgiel subdivision. AC1 (25–29, C, IC) thought the same, because living there would have the disadvantages of suburban living (primarily being further from town) but none of the advantages (perfect or near perfect privacy, a large private garden, a house with individual character). The following comment from ON3 encapsulates this view:

> *"They're just dreadful, they're all standalone houses, and people obviously spend a lot of money of them, but they're just horrible. Like, 'oh, let's build an $800,000 townhouse outside of Mosgiel, it looks exactly the same as everyone around you, and everyone's just a few metres across the fence.' Oh, I couldn't bear to live in a place like that. I've always liked sort of older houses, and when I've been looking for houses I've looked at more character houses...So, I'd probably less like to live in a Mosgiel-type standalone house than an inner-city apartment."*

This view that low-density suburbs, or at least new greenfield subdivisions, can also be unpleasant may be part of the reason that few respondents selected "living closer to town is less pleasant than living in a low-density suburb."

Housing quality

Relatively few survey respondents selected poor design and construction as disadvantages, but these were frequently mentioned by interviewees in relation to other disadvantages. Although most interviewees thought that many of the disadvantages of living in MDH could be overcome if it was well-designed, they were concerned that in reality it would be poorly designed and constructed. On the other hand, they thought if

it was done well, it would be prohibitively expensive for most people. OC3 (40–49, F, OS), for instance, in relation to the disadvantages she'd selected in the survey—lack of privacy, lack of natural light and excessive noise—said "I think to an extent you'll always have to trade-off some of those things [living in MDH]. However, I also think that design plays a big role. I'm sure that the High St cohousing development will have design principles to mitigate those sorts of things." But she also said, "I just don't know if we're going to have the luxury of that, for just Joe Bloggs, average, even just first home stuff." Similarly, ON2, who had some knowledge of property development due to his experience in renovating old houses, thought that developers often do the "bare minimum" and prioritise profit over quality. Consequently, he was cynical about the requirements of the 2GP to provide utility space as part of MDH, saying:

> *"I've seen it before, and I can just imagine that'd be a wooden fence, a concrete pad, a clothesline, whatever the minimum space is—4 m^2 or something—I don't know what it is, and not really that enticing."* **(40–49, F, IC)**

As Figure 6.12 suggested, for most interviewees, visual appeal did not seem to be a major determinant of whether they would live in MDH. Nevertheless, several interviewees said that while this was not a priority, it did make MDH a more attractive option. AC1 and AN1 mentioned this in relation to their personal experience of MDH that lacked visual appeal. AN1 (18–24, N, IC) noted that the attached townhouse he lives in is concrete block and "not particularly pretty." AC1 (25–29, C, IC) said that where her attached townhouse was not an attractive place to live because it was one of many "really hideous houses that looked the same as every other hideous house, not just in that street, but in the neighbourhood."

Independence

A disadvantage that was not an option in the survey but emerged as a noteworthy theme in the interviews was that living in MDH reduces independence in terms of how much autonomy a person has over their house and open space. Some interviewees were concerned specifically about the implications of dealing with body corporates. Others pointed out that in living in attached housing simply requires greater consideration of

your neighbours' views. In most instances, interviewees did not see this as a particularly large disadvantage but did think that the way MDH was managed was important.

> *"Yeah, I kind of like the idea of still having some sort of control, but also having a hand if needed…but I'm less inclined to the cooperative thing, [my friend] is quite keen on a cooperative sort of situation, whereas I quite like my privacy really, I like being independent, at the moment anyway."* **(OC4, 65–74, O, IS)**

> *"People having to deal with like all the body corporate things…it's pretty annoying as well, if you're coming into something like that. I've got a friend, he lives in Japan but he's got a place like that here, it's in Roslyn, so it's a nice part of town. But the body corporate's really quite active, so you've got all of these sort of grumpy old people, who are really particular about the colour of the paint and it's really expensive when they all decide to sort of get the scaffolding in and repaint everything, and it's all got to be done the same way, and it costs more than if you got your own place. Like for me I just please myself in my place, I pay my rates, and yeah, don't need to worry about body corporates."* **(ON3, 40–49, O, OS)**

Similarly, one of the main reasons that AC2 ended up choosing to buy a standalone house was that she wanted to "just have an independent thing." She said when Toiora High St Cohousing first started, she thought she would buy into that, but as well as the cost being high, she wanted more independence than it offered:

> *"Then I was kind of put off by the all the meetings and the community stuff. I think it was probably too intense for a first home buyer to become involved in that with no experience of home ownership. Yeah, I think I just went off that idea because I wanted some way that I could just do everything myself, I didn't have to worry too much about the body corporate fees and all that malarkey."* **(AC2, 30–39, C, IS)**

6.3.4 Summary of participants' willingness to live in MDH

The vast majority of survey respondents said they would consider living in MDH in some circumstance, but were much more likely to consider living in it as younger or older adults without children. Still, a sizable minority they would consider raising children in MDH. The inner city and inner suburbs were clearly the preferred locations, and lower-density types were preferred outside the inner city. Overall, respondents were most likely to consider living in attached townhouses and 2–4 storey apartment buildings in the inner suburbs or apartment buildings up to 6 storeys in the inner city. However, attached townhouses were fairly popular throughout the city; nearly half of respondents would consider living in the inner city and outer suburbs. Younger survey respondents seemed more willing to live in MDH; they considered living in MDH in a wider range of circumstances and seemed less concerned about the density of the typology but appeared to prefer being centrally located.

Together, the survey and interview results suggest that most respondents thought the main advantage of living in MDH is its potential to offer a more convenient lifestyle, especially the convenience of living closer to town. This may at least partially explain why respondents were more likely to consider living in MDH in the inner city and inner suburbs. The results also suggest that if MDH was more affordable than standalone housing, this could attract many people, but that if not, it may be perceived as poor value for money. Additionally, a sizeable minority of respondents may be drawn to MDH out of a desire to have more opportunities for social interaction and a greater sense of community.

Still, the vast majority of survey respondents had reservations about living in MDH, mostly due to design features such as privacy, noise, light and access to open space. The survey results suggested that many respondents may be unaware that these can be mitigated by good design, but almost all the interviewees thought these disadvantages could be mitigated adequately by good design and construction. However, most interviewees also thought that in reality MDH was likely to be poorly design and constructed. Importantly, the results suggest that for most respondents, having a large private garden may not be necessary to meet their needs for a pleasant outlook, recreation, having pets or raising children, but that access to some kind of open space is

important. Overall, the results indicate that many of the disadvantages of living in MDH to respondents are design-related and design-dependent.

6.4 Support for building more MDH

This section addresses participants' support for building more MDH in Dunedin. To gauge the extent of support, survey respondents were asked where in Dunedin they would support building different types of MDH. As with the survey questions on willingness to live in MDH, the nature of respondents' support for building more MDH was investigated by asking what they thought were the advantages and disadvantages of building more of doing so. This provided insight into why respondents supported or opposed building more MDH in Dunedin, and whether they have any design-related preconceptions about what this would entail. The qualitative findings enable greater understanding of the nature of respondents' support for MDH, and insight into NIMBYism, an issue which is addressed at the end of this section.

6.4.1 The extent of support for building more MDH

Comparing Figure 6.14 below to Figure 6.8 shows that where respondents' support building more of each type of MDH generally reflects their willingness to live in them. The preferred options were once again inner city apartment buildings up to 6 storeys and attached townhouses and 2–4 storey apartment buildings in the inner suburbs. Additionally, attached townhouses enjoyed the most support throughout Dunedin, while outside the inner city 4–6 storey apartment buildings had the least support. In fact, compared to the lower-density typologies, four times as many respondents said they did not support building more 4–6 storey apartment buildings anywhere in Dunedin. Another similarity is that respondents were more supportive of building more MDH in the inner city and inner suburbs compared to the outer suburbs. However, more respondents supported building more attached townhouses in the outer suburbs (58%) than would consider living in them (45%). To a lesser extent, this was also true for 2–4-storey apartment buildings (22% of respondents supported building more of them, 14% would

consider living in them). This indicates that some respondents would not live in MDH in the outer suburbs but do not object to building more MDH there.

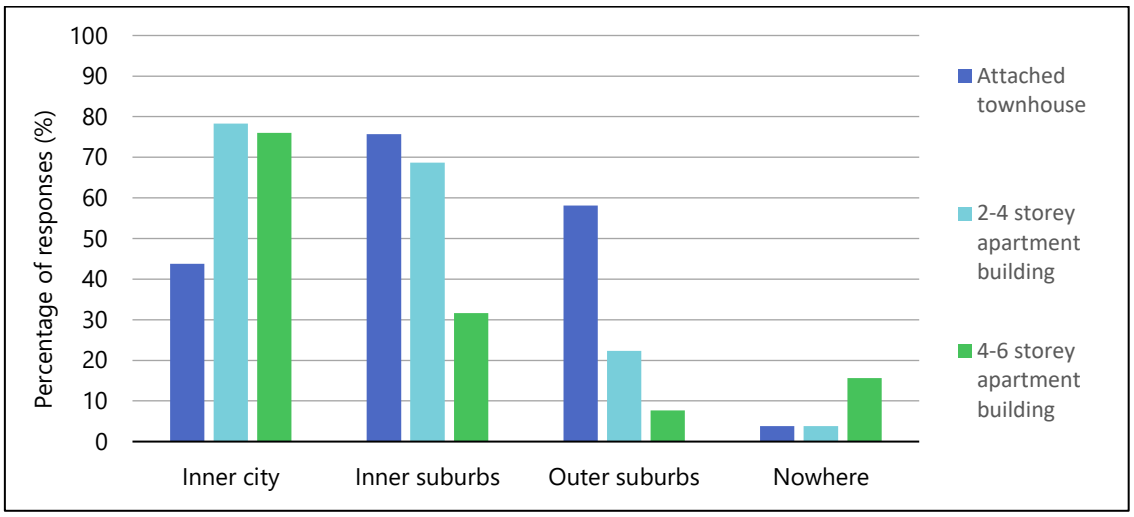

Figure 6.14 The support of survey respondents for building different types of MDH in different locations.

Figure 6.15 suggests that younger respondents—especially those aged 18–24—were more supportive of a wider range of typologies in a wider range of locations, although all age groups were equally unsupportive of 4–6 storey apartment buildings in the outer suburbs. This is similar to Figure 6.9, but a noteworthy difference between the two is that respondents aged 65–84 were more supportive of building MDH than they were willing to live it; this was the case for all types and locations except for 4–6 storey apartment buildings in the outer suburbs. This suggests that younger respondents may be more accepting of MDH overall, but that even if respondents aged 65–84 are less willing to live in MDH themselves, they do not necessarily oppose it.

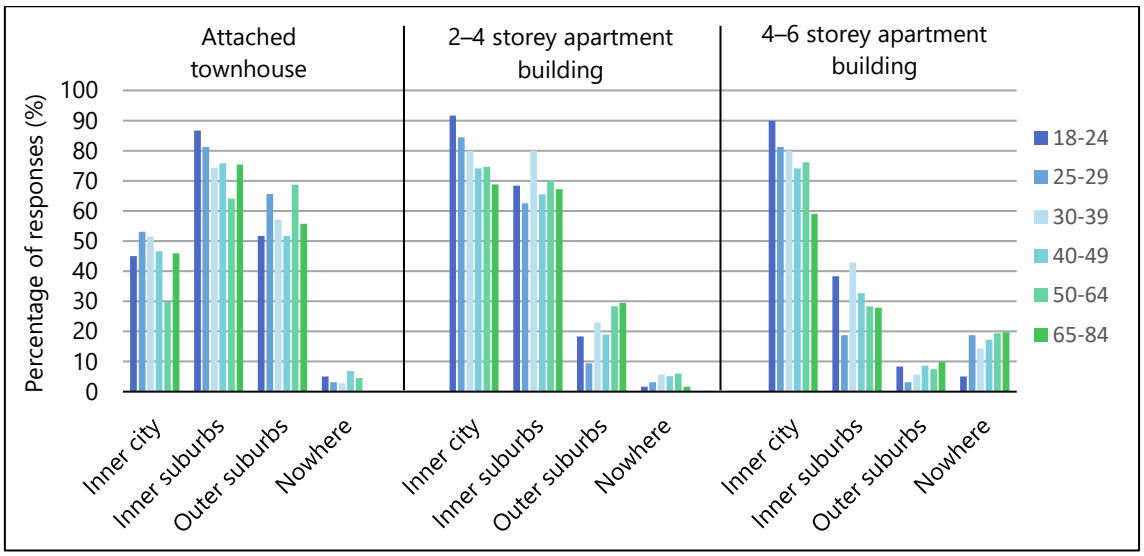

Figure 6.15 The support of survey respondents in each age group for building different types of MDH in different locations.

6.4.2 Advantages of building more MDH

In line with Figure 6.14 suggesting that most respondents supported building more MDH in Dunedin, Figure 6.16 shows that only 3% of respondents thought there were no advantages to doing so. By far the most commonly selected advantage was that building more MDH would create more housing options, allowing people who wish to live in MDH to do so (88%). Similarly, 60% of respondents selected "it's more affordable" as an advantage, considerably more than the 40% who thought this was an advantage of living in MDH. The second and third most commonly selected advantages were that building more MDH protects greenfield land around Dunedin (65%) and helps to reduce carbon emissions from car travel (64%). Additionally, 51% of respondents thought that MDH is more energy efficient. These findings indicate that respondents think building more MDH has both environmental and social benefits. Although 48% of respondents agreed that building more MDH could increase the amount of greenspace in Dunedin, less than 20% thought it would improve the city's amenity with regard to the look and character of Dunedin's neighbourhoods. The only trend suggested by Figure 6.17) is that, as in Figure 6.11, the number of respondents who selected "it's more affordable" decreased as age increased. However, it is worth noting that the three most commonly selected advantages overall were selected by more than half of respondents in every age group, and more than 80% of respondents of all ages thought that creating more housing options was an advantage of building more MDH.

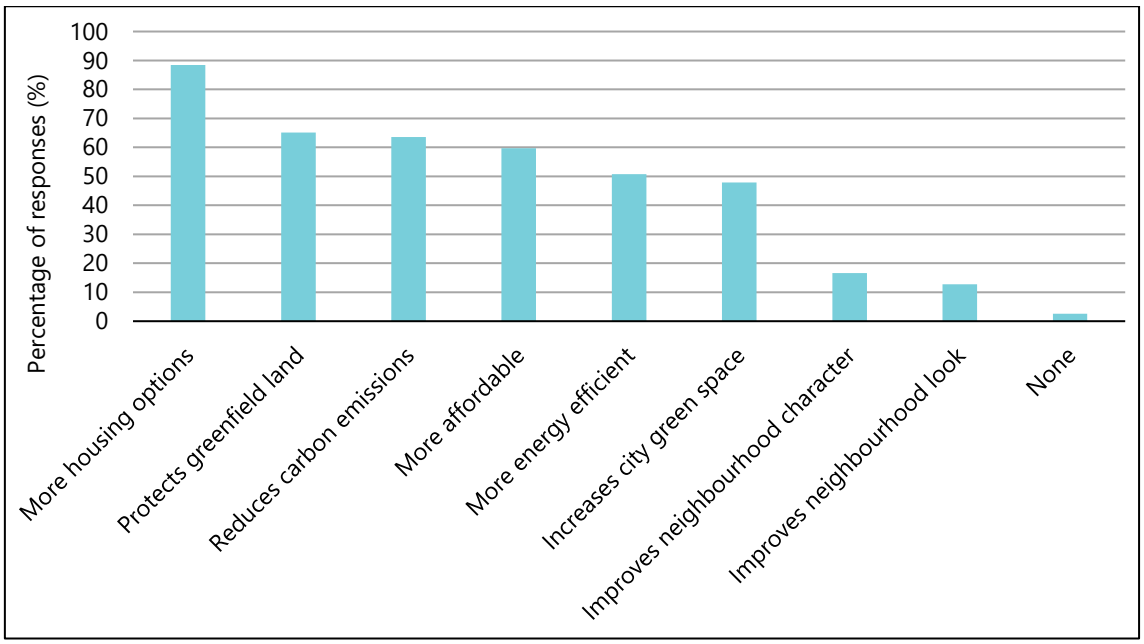

Figure 6.16 What survey respondents saw as the advantages of building more MDH in Dunedin.[4]

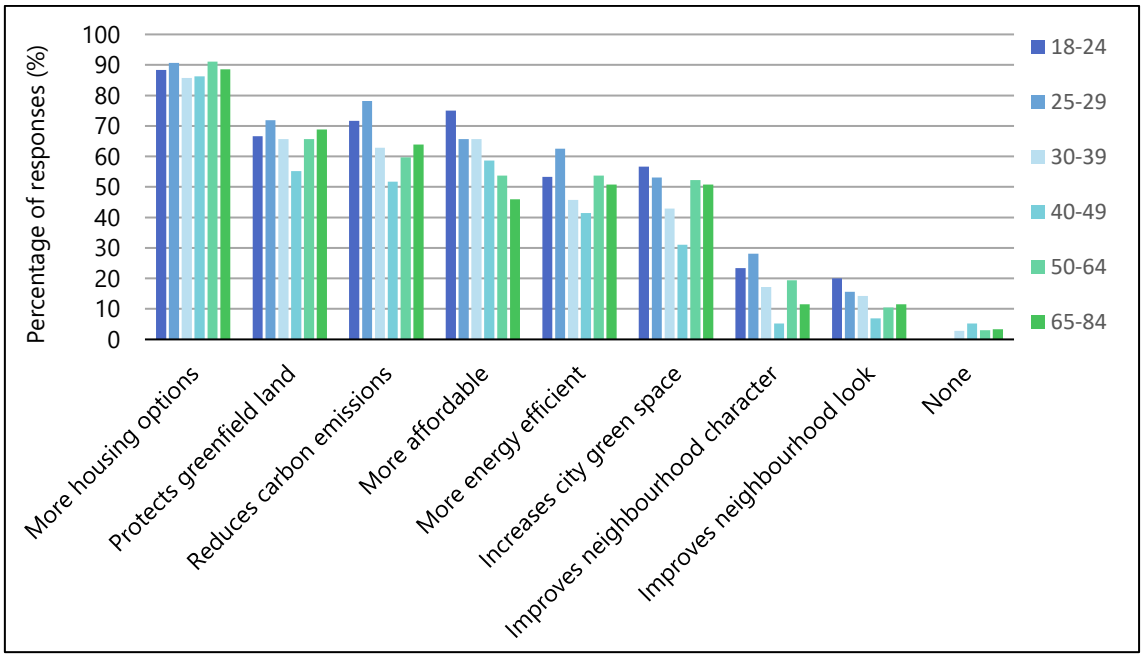

Figure 6.17 What survey respondents in each age group saw as the advantages of building more MDH in Dunedin.

[4] The advantages in Figure 6.16 and Figure 6.17 have been abbreviated. In full the options presented to respondents were: it will create more housing options, so people who want to can live in MDH; increasing housing density will help to protect productive land and/or native habitat and/or recreational areas around Dunedin; increasing housing density will help to reduce carbon emissions from car travel; it's more affordable; it's more energy efficient; increasing housing density will increase the amount of green space within Dunedin; it will improve the character of Dunedin's neighbourhoods; it will improve the look of Dunedin's neighbourhoods.

Housing options

Reflecting the finding that creating more housing options was by far the most commonly selected advantage of building more MDH, all the interviewees mentioned this as an advantage. A common view was that it is important for people to be able to live in houses that meet their needs and preferences, so if people want to live in MDH they should be able to do so. Some interviewees wanted this opportunity for themselves as well as other residents. Others said that although MDH did not appeal to them or they simply thought they were unlikely to move out of their current home, they supported building more of it—to varying degrees—to meet the needs and preferences of others. This perspective is encapsulated in the following comment from AN2, who said that although living in MDH was not her preference:

> *"I think there are some benefits to it. I wouldn't rule it out completely because I think there's people out there that would prefer that, and that's part of their lifestyle*." **(AN2, 40–49, F, OS)**

Even ON3 and ON4, in the survey said there were no advantages to building more MDH in Dunedin, mentioned during their interviews that it could be good for Dunedin to have a greater variety of housing options. ON4 (65–74, F, IS) thought that some people who emigrate to New Zealand "have no idea what a suburban house is, let alone how to use it or live in it," and that living in MDH would be lower-maintenance and would suit them better. Consequently, he thought that "there's probably a place for it, to suit some people." ON3 (40–49, O, OS) mentioned that an advantage of building more MDH was that it if it had well-designed communal open space that was maintained for residents, it could enable more people to enjoy having a garden for recreation without having to maintain it, as he did. He noted that he had seen examples of this in London where it seemed to work well. Similarly, ON2 recognised that for more people to enjoy his lifestyle of being able to walk to work, more MDH would be needed in and near the inner city:

> *"At some stage, you've gotta say, 'is it really worth it, having that situation where people are fighting to get into town, fighting to find a park, and all that goes with that?' If you increase the ability of people to live within walking distance, that's one part of the solution, right?"* **(ON2, 40–49, F, IC)**

As the advantages of living in MDH were generally seen as more attractive to and suitable for younger and older adults without children, most interviewees also thought that building more MDH would benefit these groups the most. Consequently, interviewees expressed views similar to those of OC3, who commented:

> *"I think that the apartment buildings thing could be great in the central city area, if it was designed more for couples, professionals—people that are probably pre-kids, or maybe just one, sort of an inner-city urban living type thing...even postgrad uni students or students who have just finished university and are starting out in the city. I think there's so much potential for that kind of thing in Dunedin."* **(OC3, 40–49, F, OS)**

Regarding older residents without children, interviewees thought MDH could suit their needs for a lower-maintenance home with easy access to urban amenities and other key destinations and could provide more opportunities for social interaction. Interviewees highlighted that building more MDH would therefore enable older residents to access housing that met these needs without having to move into a retirement village, so they could remain in their community if they wished. In other words, it would provide greater housing choice for Dunedin's older residents. These views are articulated in the following quotes:

> *"I think that's really important, that they have the option to live in any space that they want to. I don't think they should be shunned into the subdivisions in Mosgiel out of town. Which some love, but I think they should have more options for them to be able to live anywhere they like, but not have to live in a big house by themselves, as they get older that's really unsafe and they have accidents and do stupid shit, fall off beds when they shouldn't be standing on them."* **(OC1, 25–29, C, IS)**

> *"I think that's a really important issue actually, that people often, in order to downsize they have to abandon the community that has been their place of identity and support for a long time. I can think of places in Pine Hill where it would be possible to build the kind of housing we're talking about, so people wouldn't have to abandon their community. And that's*

got implications for the whole business of aged people's loneliness." **(AC3, 65–74, C, IS)**

ON1 offered a different view. She thought that most older residents *prefer* to live in retirement villages, saying:

> *"There are a lot of retirement villages being built—that's probably more attractive [to older people]. They would want to go to a place with more space, with a view, very quiet, not so close to the neighbours, but still be next to some older people...I think they probably prefer to live with older people, you know. Older people are funny, they can't stand noise, right? And they like fellowship, they like people visiting them, but they can't stand if people suddenly come and don't leave, they get really stressed."* **(ON1, 30–39, F, IC)**

It is worth noting, however, that no other interviewees shared this opinion including those nearing or at retirement age; ON4 (65–74, F, IS) never wanted to live in anything other than a standalone house, while OC4 (65–74, O, IS) and AC3 (65–74, C, IS) said that they would prefer a mixed community to a retirement village.

AC1, based on her experiences as a health and disability needs assessor, thought that building more MDH could provide a much needed increase in housing options for disabled Dunedin residents with reduced mobility. She mentioned that modifying existing housing stock is not an ideal solution, and that building more MDH is an opportunity to provide housing purpose-built to meet the needs of these residents. She also emphasised the need for more such houses closer to town, so that people who have reduced mobility and are unable to drive have a variety of options to choose from:

> *"The houses [accessible to people with mobility needs] are there, but they're like 20 minutes car drive out of the CBD, which means for someone who doesn't have a licence it's hugely unaffordable and not really feasible for them to live in those houses. It's not even a choice, it means that they're having to make a massive compromise."* **(AC1, 25–29, C, IC)**

AN1 also made an interesting point in relation to one-person household, pointing out that the dominance of 3–5 bedroom standalone houses is a hangover from times when the majority of people married and had children. He thought that this further entrenches the idea that everyone's life should follow this trajectory, and also makes living alone unaffordable. AN1 also commented that this can have negative consequences beyond reduced housing choice, such as making it more difficult for people to leave abusive relationships:

> *"Building housing partly along the principle of building spaces for people who are on their own is really important to me. Both as something that I would potentially want for myself, and as a justice and equity thing. Because I am one of the—I suspect, higher than is admitted—number of people who like, I've never really imagined getting married, I've never really imagined living with a long-term partner, it's just never really been on my goal list. I would much rather have my own place and have slightly looser connections with people, but still be able to come back to something that's mine at the end of the day…I think that is the next frontier in terms of challenging entrenched relationship structures…why is our entire society structured around being in a couple?…I do wish there were more options."* **(AN1, 18–24, N, IC)**

Despite thinking that building more MDH would create more housing options, not all interviewees were certain that Dunedin's current housing options are inadequate. Others, however, thought there was definitely a lack of options. In relation to housing for older residents, AN1 (18–24, N, IC) mentioned that his grandmother had actually sold her family home and built a new, smaller house in the same suburb, so that she could downsize without leaving her community. Similarly, OC2 (40–49, F, OS) noted that when he and his partner were considering buying an apartment, "there was bugger-all out there," and AC2 (30–39, C, IS) made a similar comment. Some interviewees also commented that there was little variety in the MDH options that did exist. They noted that MDH was mostly provided for students in the Tertiary Precinct, that in other areas it is usually older, and that most MDH in Dunedin open space and green space, making comments such as those below.

"I think there is a need for a greater variety of housing…be in a place like, say, Chatsford, you've got a lot of houses that are connected to each other or connected to adjacent garages, but you've still got a garden…but I'm not aware that there's much of that planned for Dunedin." **(AC3, 65–74, C, IS)**

"You guys have all those studio unit apartments down here [in the Tertiary Precinct]—I mean, they seem to work pretty well for students, so I think that's quite cool. It just seems that we think about that for students only. Although there's all the housing in the city centre, Carroll St and Stafford St; all through there there's quite dense housing…Again I think quite a lot of it's old, so it's not very appealing…What I don't know is how attractive that housing is for young professionals or older people, that group I think would be best served by the city centre." **(OC3, 40–49, F, OS)**

"I really wanted a garden, and I wanted to be able to just delve and do stupid hobbies…and we were kind of looking for run-down places as well, so we had projects and stuff. So, a lot of the time that didn't really fit as well into what was available with MDH." **(AC1, 25–29, C, IC)**

Dunedin's housing affordability

Most interviewees expressed concern about Dunedin's declining housing affordability and thought that building more MDH could help address this, usually because building more MDH could increase the supply of affordable housing. In particular, interviewees often mentioned that this would be a good way for young adults to "get on the property ladder", and, as ON1 (40–49, O, OS) put it, "give the younger generation an option to get out of a life of renting." Some key quotes from interviewees on this are presented in Table 6.6 below, and a survey respondent also made the following comment:

"I think it provides a really good option for young adults, and those with younger children to afford housing that can provide a really lovely and

'homey' atmosphere—especially with how ridiculous the housing market is in Dunedin at the moment."

Table 6.6 Interviewee comments on MDH being a way to provide more affordable housing, and especially to enable young adults to buy their first home.

ON1 **30–39, F, IC**	"I guess you have to offer this sort of housing for young professionals—they have to buy their first home. And with a townhouse, or an apartment, it's an option if they can't afford a $500,000 house...I think there's a need for that...and also older people, who can't afford to buy into a half million-dollar retirement village."
ON3 **40–49, O, OS**	"There has to be [a place for MDH in Dunedin], because it's becoming increasingly difficult for people to buy their own place. I imagine that this sort of development if you buy into it, you won't get the same sort of capital gains as you would with a standalone house, but at least you're still in the property game. People want to own their own homes, and people should be able to own their own homes, if they want"
OC3 **40–49, F, OS**	"I think it's probably a good way to get a first home, also, for people that can do that, because this standalone house now is getting, like ridiculously expensive."
OC4 **65–74, O, IS**	"I have a daughter who is trying to buy a house, and like, for me, it was so easy to buy a house, that, you know, it was an expectation. So, not that that sort of house would be her preference, but on behalf of other people who need a house, I'm not averse to it at all."

However, as with the affordability of living in MDH, interviewees usually said that while it should be more affordable to rent or by a 1 bedroom apartment—or even a 3 bedroom attached townhouse—than a 3 bedroom standalone house, this is often not the case in Dunedin. Furthermore, both interviewees and survey respondents again mentioned that if MDH was well-designed it may be less affordable; several interviewees commented that not only is MDH in Dunedin expensive generally, but well-designed MDH is even more so. As well as the examples mentioned previously of Toiora High St Cohousing and OC1's (25–29, C, IS) experience with MDH, AC1 said the following:

"Up the road from me, a new build was done on a spot where it's just like 2 semi-detached places, no garden—or you know, they've got like a metre around it of plantings and things—and they've got a car space underneath. And I think, from memory, the guy who built it moved into one of those places and the other one was for sale, and he was asking for like over $1 million. And I thought 'who the hell is going to pay $1

million to live in a place without a garden?' I was blown away." **(AC1, 25–29, C, IC)**

Similarly, one survey respondent said, "the design is completely important to me. However, I am aware that if well-designed and sustainably-minded, MDH would increase in price," and another commented:

> *"I think we need more [MDH]: we have a housing crisis in Dunedin. But the price of renting or buying a basic apartment in Dunedin is outrageous. Especially when compared with places with plenty of apartments and high rises like Melbourne, where the cost of an apartment is actually reasonable for the quality and design."*

A theme that emerged from the interviews and freeform survey responses was that building more MDH would not necessarily improve housing affordability, but that it *could* do so, and this should be a key aim of building more MDH. AC1 (25–29, C, IC) for instance, emphasised that she did not want to see "just gentrified, fancy Scandy houses," or "ultra-trendy upper echelon gentrified messes," although she thought that MDH could appeal to wealthier households. Survey respondents made similar comments:

> *"Good design should not necessarily mean high cost. If MDH is going to be the preferred choice of certain demographics in Dunedin and other urban centres it must be affordable. This may require a change in the materials and construction types e.g. more pre-fabricated designs so as to achieve affordability. I don't see well-designed MDH as a big advantage if its high cost keeps it unaffordable to most people."*

> *"We need regulations on WHERE properties can be rented to get rid of the grasp landlords have on the property market. It's all well and good to have higher density housing, but if nobody can afford it and it all gets rented out there's not much point to it."*

> *"I think a big issue would be whether these new buildings are snapped up by landlords and then rented at an exorbitantly high price, I think affordability is one of the most important factors."*

A few Interviewees also thought that building more MDH could improve housing affordability in ways other than increasing the supply of affordable housing. For instance, OC3, AN1 and AC1 all thought that it could increase occupancy efficiency, because if smaller households moved into MDH "it would free up the 4 bedroom homes for families" (OC3). AN1 (18–24, N, IC) emphasised that for a single person or childless couple, living in a traditional standalone house on a large section is "not tenable" as housing affordability continues to decline. From her standpoint as a transitional housing case worker, OC3 (40–49, F, OS) commented that MDH was a good way to provide more social housing, if it was "pocketed" as a proportion of dwellings within a development. This would help prevent ghettoisation, an issue discussed further in Section 6.4.3.

Environmental consequences

Most interviewees mentioned that there are environmental benefits to building more MDH although opinions on their importance varied. For several interviewees, it was vital that housing provision is sustainable from an environmental standpoint and they saw the environmental benefits of building more MDH as one of the main advantages to doing so. These interviewees thought that limiting urban expansion was essential to reduce the rate of land consumption and carbon emissions from vehicle travel, and that Dunedin should prioritise urban intensification over urban expansion. Similarly, a survey respondent commented, "my main concern with a growing city is too many cars on the road and resulting carbon emissions. Most cities have failed in this regard."

The interviewees who expressed the strongest views on this were OC2, AN1 and AC3. OC2 (40–49, F, OS) thought that while New Zealand's population was lower "we could get away with fairly low-density housing" but that this was no longer the case, and that New Zealand as a country "has been very slow" to consider MDH, or even denser housing. Although she felt less strongly about urban expansion, OC3 (40–49, F, OS) made a similar comment, noting that higher-density housing is the norm in many overseas countries "and here in New Zealand we've just been kind of lucky." Consequently, OC2, AN1 and AC3 all thought there was an urgent need to build more MDH, not just for social reasons, but from an environmental perspective. The following quote from OC2 summarises this view:

"I absolutely think it's a necessity. I mean, for me it's about looking at the big picture: our cities are getting too big, and we need to kind of condense them. To me this is not a plan we need to be thinking about to do in 20 years' time, we need to be doing it right frickin' now." **(OC2, 40–49, F, OS)**

Regarding exactly why they felt limiting urban expansion was so important, these interviewees made the following comments:

"You need to look at it in the context of population growth and available land for building…I'm really worried about things like what's happening up in Auckland, with the traditional kind of market farming land—like Pukekohe, and further out, the Bombay Hills—those sorts of areas are apparently now all becoming suburbs. But I think this is some of the best agricultural land in the country, and it's kind of criminal, almost, seeing it being turned into houses. We're sort of almost shooting ourselves in the foot as a country, you know, building on all this incredibly rich agricultural land, and so that really concerns me… I don't want to see the Taieri Plains filled up with houses. I know there's lifestyle blocks out there and that's one thing, but I really don't want to see a whole lot of 1/8th acre suburbs. It's happening now. We need to be preserving land close to our cities." **(OC2, 40–49, F, OS)**

"We just can't go spreading housing across the landscape as though there's more of the planet, because there's not. We have to think about new ways of housing people…I became aware when I was a minister in Mosgiel…very good agricultural land was being taken over by housing developments and that just seemed to me to be very wasteful." **(AC3, 65–74, C, IS)**

"You can fit more people into the same space and giving people more housing options closer to town reduces emissions because people aren't pushed into the outer suburbs unnecessarily. And taking down existing housing stock and building MDH over it means that we're not encroaching onto protected areas, because we're not having to use more

land to house more people, we're just using the existing land more efficiently…yeah, just the environmental aspects of just leaving stuff wild rather than having to rewild it later, and that kind of thing. And I think if we had good MDH in the inner city and inner suburbs, tied to decent public transport, we could cut emissions pretty well." **(AN1, 18–24, N, IC)**

AN1 noted that while buying out and replacing old housing will have a cost associated, there also needs to be recognition of the value of leaving land productive land and ecologically important land undeveloped.

Energy efficiency was another major concern for OC2, AC1 and AN2, and for other interviewees, especially OC3 (40–49, F, OS) and AC1 (25–29, C, IC). These interviewees highlighted that new buildings can be built to a higher standard than retrofitting allows, and that MDH also provides opportunities to incorporate new technologies for energy generation and heating, and to use other resources such as water more efficiently, making comments similar to those below:

"I think when you're doing something like this, you can really look at just bulk applying sustainable features whether it's water tanks for collection, and solar panels, and even just everything's double glazed" **(AC1, 25–29, C, IC)**

"If we had proper insulation we'd be using less power and all that jazz. And there's opportunities to build in water recycling and that kind of thing…I think there are a lot of opportunities when you're building something new to integrate efficiency into the design that there just aren't for existing standalone stuff…and I think there's just an upper limit on the kind of stuff you can do to existing housing stock…I think we do just need to admit that maybe that isn't doing enough anymore, and that it's worth investing in building new housing that's of a really solid quality." **(AN1, 18–24, N, IC)**

AN1, OC3 and ON1 all thought there was potential for replacing some of the old, poor quality housing in North and South Dunedin with new, energy efficient MDH, and that this could have both social and environmental benefits.

Around half the interviewees mentioned the environmental benefits of limiting urban expansion and improving the energy efficiency of Dunedin's housing stock as advantages of building more MDH but placed less emphasis on them. Some were unsure about the extent to which urban expansion was a problem or thought it was not a pressing one. OC3 (40–49, F, OS), for instance, thought that using land efficiently was important, saying, "I don't think it's a good idea to spread out for miles and miles," but was uncertain about whether this was a pressing issue for Dunedin and thought that the hills around the city might limit expansion.

Several interviewees emphasised the social rather than the environmental benefits of limiting urban expansion, such as ON2 (40–49, F, IC) and AC1 (25–29, C, IC), who highlighted the quality of life benefits of having shorter or no commutes. Similarly, AN2 (40–49, F, OS) thought that Dunedin retaining its fairly compact urban form was important because it made "everywhere easy to get to." Interviewees who held these views also tended to think that there should be a more even split between urban intensification and urban expansion when accommodating population growth. ON3 (40–49, O, OS) said "there is plenty of land outside Dunedin" and thought that if farmers want to sell it, then it should be built on. However, he also thought intensifying the inner city made sense, and AN2 thought there should be a split of "about 50/50" between urban expansion and urban intensification. Similarly, OC1 did not object to building more housing on the Taieri Plain, but she also valued protecting greenfield land and using land efficiently:

> *" I don't think it should be fully covered. I think in New Zealand we pride ourselves on having those open greenspaces, and I think that still needs to be maintained, but I think adding more of [MDH] would definitely work in that area, because you're not taking up much ground, but you're fitting more people into that space. Rather than building 10 different houses, you're putting 10 people into that one block, that would make sense. Finding a way that's not taking up too much space, but you're still making room for those people coming into the city."*

Only one interviewee thought there were no environmental benefits to building more MDH and was comfortable with building more housing on the Taieri Plain, because "all

that we're doing is cutting up the farms into smaller blocks, and more people enjoying that lifestyle, if you like. And if people can afford to do that, then that's a good environment for them to be in." As he did not believe in climate change, he saw no benefits to reducing carbon emissions from vehicle travel.

Amenity and community

While few survey respondents said that building more MDH could improve the amenity of Dunedin's neighbourhoods in terms of their look and character, around half the interviewees thought it did have the potential to do so. On the other hand, the potential of building more MDH to increase the amount of green space in Dunedin was not mentioned by interviewees.

Interviewees typically thought that MDH could improve the look and/or character of Dunedin's neighbourhoods through adaptive reuse of heritage buildings, mentioning examples such as apartment buildings in the Warehouse Precinct or other heritage buildings in Dunedin. For instance, OC4 (65–74, O, IS) knew of an old building on Arthur St being converted into MDH which she really liked, and OC2 (40–49, F, OS) emphasised that adaptive reuse was "fantastic", noting that "some of these buildings were traditionally for business, but they've been lying empty for years or getting run down. And people are kind of reinventing these buildings." OC3 (40–49, F, OS) thought that as well as heritage buildings, Dunedin has a number of old, run-down state house, and replacing them with new, well-designed MDH could positively contribute to neighbourhood look and character. Interviewees also thought that in general, modern buildings could have a positive contribution, depending on their design. ON1, for instance, who had stayed in the Melbourne Docklands mentioned this as an example of "classy" higher-density development done well, and described some new MDH that she had seen in the Netherlands as "really artistic."

Some interviewees thought that building more MDH could enhance an area's sense of community and vibrancy, which also contributed positively to the social aspect of neighbourhood character. OC2, AC2 and AC3 in particular emphasised this, and AC3 (65–74, C, IS) thought that having a greater variety of housing would make neighbourhoods more interesting. With regard to vibrancy and character, another point that was made by

ON1 and OC2 was that building more MDH in the inner city specifically could increase its vibrancy—as well as that of Dunedin generally—which would have both social and economic benefits.

> *"I guess it would bring more energy and innovation into the city, and people would be interested to see it. It's almost like a tourist attraction if you have good character buildings."* **(ON1, 30–39, F, IC)**

> *"If you look at cities around the world, and there's a vibrancy that is sometimes lost from New Zealand cities…we tend to sort of all migrate, or commute into the cities to work, and then we kind of commute back to our homes in the suburbs, so what seems to happen is that you get both suburbs without a lot of soul, and then you also get inner cities without a lot of soul. And I think if you had MDH, or high-density housing, close to the centre of the city, you'd actually get a lot more kind of vibrancy and life and energy happening…you've gotta make them cooler places to live, you know."* **(OC2, 40–49, F, OS)**

Regarding community, AN1 (18–24, N, IC) also thought in situations where large tracts of residential land may become unusable, such as in South Dunedin, building MDH could help to relocate neighbourhoods while retaining their sense of community:

> *"We've got to figure out what to do about South Dunedin, right? Because that is coming whether we want it to or not, we're going to end up with tracts of land that aren't usable…and part of the problem is that it's a really solid local community…You've got people who have been there their whole lives and are trying to preserve their way of life, and you've got to honour that. And I am not the king of solutions, obviously, but I think if you were building MDH in places that weren't as vulnerable and then encouraging those communities to kind of move into it, you know? Like, apartment building communities happen, and could be a way of preserving some of that in the face of climate change and stuff."* **(AN1, 18–24, N, IC)**

6.4.3 Disadvantages of building more MDH

Figure 6.18 suggests, like the above results, that more respondents may be support building more MDH in Dunedin than are willing to live in it; 15% of respondents said there were no disadvantages to building more MDH. Although this is clearly still a small minority, it is much greater than 2% of respondents who thought there were no disadvantages to living in MDH. It is also interesting to note that there were no disadvantages chosen by the vast majority of respondents, as "it will create more housing options" was. The most commonly selected disadvantage, that MDH often looks ugly and/or lacks character, was chosen by exactly half of respondents. This suggests that although lack of visual appeal may not be a considered a disadvantage by many respondents when it comes to living in MDH, it is a common concern about building more of it. The next most frequently selected disadvantage is that MDH is often poorly designed (42%), followed by the concern that building more MDH will result in slums of low-quality housing and that it is often poorly constructed, which were both selected by just under one third of respondents. Loss of neighbourhood character was selected by a quarter of respondents, while 22% thought that low-density suburbs are more pleasant, and 17% thought it would reduce the amount of green space within Dunedin.

These results indicate that what respondents' see as the disadvantages of MDH are usually related to the quality of its design (including its visual appeal) and construction, and relatively few see MDH as making Dunedin's neighbourhoods less pleasant or less green. However, it is worth noting that the percentage of respondents who see low-density suburbs as more pleasant is still sizeable. Regarding the influence of age, the only notable aspect of Figure 6.19 is that "it often looks ugly and/or lacks character" was selected by more 18–24 year olds compared to the older age groups, despite this age group being generally more willing to live in and supportive of building more MDH.

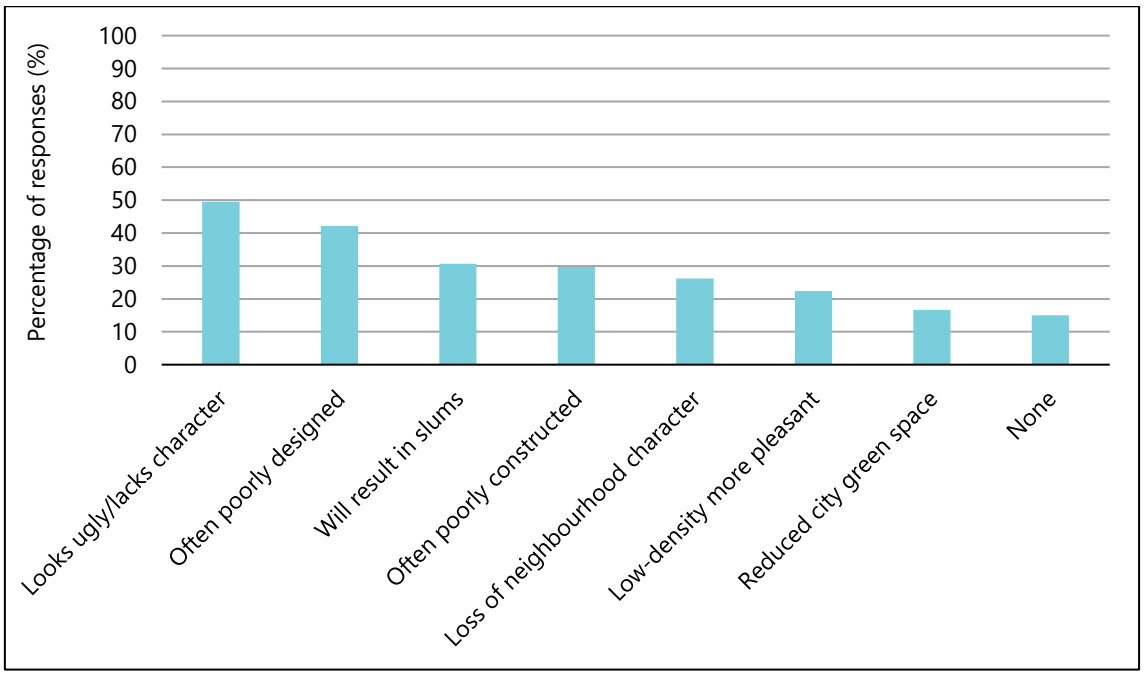

Figure 6.18 What survey respondents saw as the disadvantages of building more MDH in Dunedin.[5]

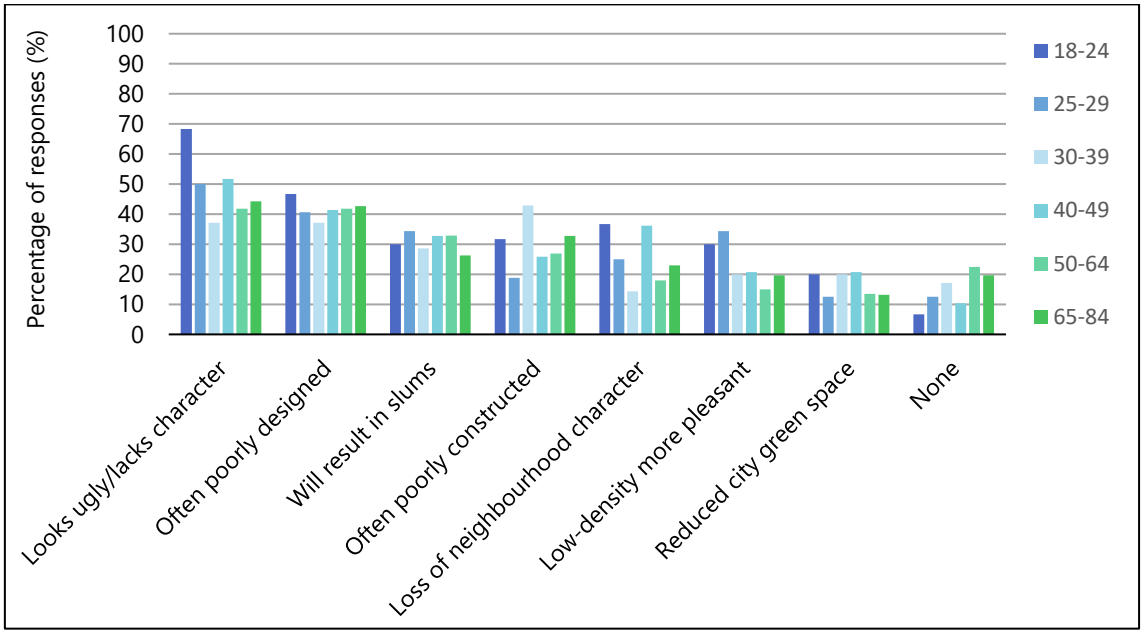

Figure 6.19 What survey respondents in each age group saw as the disadvantages of building more MDH in Dunedin.

[5] The disadvantages in Figure 6.18 and Figure 6.19 have been abbreviated. In full the options presented to respondents were: It often looks ugly and/or lacks character; it's often poorly designed; it will result in 'slums' of low-quality housing; it's often poorly constructed; it will cause Dunedin's neighbourhoods to lose their character; increasing housing density will reduce the amount of green space *within* Dunedin.

Amenity

Interviewees usually discussed the issues of MDH being ugly and/or lacking character, being poorly designed and constructed, and loss of neighbourhood character in terms of reducing the overall neighbourhood amenity.

Regarding the issue of MDH being ugly and/or lacking character, interviewees typically thought this was due to it being drab and monotonous, and/or not fitting in with the character of the existing buildings in the neighbourhood, which overlapped with loss of neighbourhood character. AC1 (25–29, C, IC), for instance, said that part of what made low-density suburbs pleasant to walk through was that each house was different, "which you may not get as much in MDH." This was her own experience when living in a neighbourhood of attached townhouses. AN2 and OC4 also mentioned their experiences with monotonous higher-density housing; AN2 (40–49, F, OS) remembered seeing "housing that for miles, it's just all the same" when she lived in England and travelled Europe. OCF (65–74, O, IS) had passed through a Sydney suburb that "just seemed to be a great stream of buildings, it was just like dormitories, one after other", which she found confronting. OC4 also described seeing an advertisement for a development of duplexes in Albert Town that she thought was very visually unappealing: "just a string of buildings that were all the same. Very offensive...they're just buildings in a popular area to house people. They don't look like homes, they don't look like flats, they don't even look like apartments, really." OC1 (25–29, C, IS) thought that although Dunedin does have some nice apartments, "but for the majority, when you look around Dunedin there's some areas where it just doesn't look appealing."

Some interviewees were particularly concerned about MDH not fitting in with the character of existing neighbourhoods with respect to heritage buildings. ON1 (30–39, F, IC) said that extra care needs to be taken with the design of MDH in Dunedin due to its many heritage buildings, because "if you suddenly rush up and build heaps of grey-looking ugly houses, it'll just destroy the character of the city." ON2 thought that new buildings do not need to be exactly the same as heritage buildings, but they still need to respond to and fit in with the neighbourhood context. He compared some examples of new houses among the heritage buildings around Arthur St, pointing out that modern buildings that "are more wooden, have got the darker panelling" fit in well with the area, as do two new attached townhouses built to match the weatherboard villas around them

(Figure 6.20). However, he felt that the building opposite these attached townhouses, which was mostly glass, was "quite jarring with what's around it" (Figure 6.21).

Figure 6.20 Examples of new houses that ON2 (40–49, F, IC) thought fit in amongst heritage buildings. The left photo shows three standalone house houses built in a modern style on Arthur St. On the right are two attached townhouses located at the corner of Arthur St and Duncan St, which were designed to match similar heritage buildings in the neighbourhood.

Figure 6.21 An example of a new house that ON2 (40–49, F, IC) thought looked jarring amongst heritage buildings. This standalone house is located at the corner of Arthur St and Duncan St, opposite the attached townhouses shown in Figure 6.20.

On the other hand, some interviewees, such as AN2 (40–49, F, OS), were not very concerned about the look of new buildings provided thought had gone into the design and they did not all look the same. Similarly, OC4 (65–74, O, IS) said that how new buildings blend in with heritage ones used to concern her, but she now held the opinion

that MDH just needed to be "good quality, whatever that looks like—and that could be modern, I guess." Interviewees were generally more concerned about losing heritage buildings, expressing sentiments similar to that of ON2, who said:

> *"One of the great things about Dunedin is the historical buildings, and if too many of those are getting knocked over, to build fairly drab MDH, then that's really sad, because you never get that back."* **(ON2, 40–49, F, IC)**

However, he and other interviewees also acknowledged that adaptive reuse of heritage buildings for housing is often a difficult and costly process.

Some interviewees were much less concerned with heritage and character, particularly compared to other issues. For instance, OC3 (40–49, F, OS) said that rather than aesthetic concerns, "in the end, for me, it would be about efficiency of heating." Similarly, AC1 (25–29, C, IC) thought that while it was good if MDH did not detract from the character of heritage buildings, she thought this was "lower priority" compared to ensuring it is well-designed with respect to providing a good quality of life for its occupants. Further, she said "I think there's some bits you can hold onto, but I think sensibly you might just have to sacrifice some things...it may not be able to continue forever as a kind of living museum in some sense." This view was shared by AN1 (18–24, N, IC) who commented:

> *"I am definitely of the opinion that anything we lost as a city by bulldozing some villas would probably be outweighed by the health of the people moving into whatever was built over them. And also, it's what we want ourselves to be defined by, right?"* **(AN1, 18–24, N, IC)**

He thought that to an extent there is a choice to be made between preserving heritage buildings and ensuring that Dunedin's population is housed in high quality, affordable housing. Additionally, in his opinion, while Dunedin has many historically valuable buildings that ought to be preserved, much of the city's older housing does not fall into this category.

AC1 and AN1 also both thought that Dunedin's older buildings overwhelming represent the city's colonial heritage, and not its Māori heritage, and that this is something that should change. AN1 said, "I think a lot of the stuff that we valorise as 'character' is, like,

poorly built white settler buildings," and thought that this was also an important consideration in deciding which buildings should be protected and how to protect them. Additionally, regarding visual appeal generally, AN1 thought it was important that MDH is visually appealing, but he also believed that there is "a tendency to write it off as looking bad, without actually considering the swathe of architectural aesthetic considerations...there's a question about how much of the pushback against it looking bad is actually that it looks bad—some if it does, mine does!—and how much of it is ideological opposition dressed-up as aesthetic considerations."

Only one interviewee said that a disadvantage of building more MDH was that it would lead to the loss of green space in the city. ON2 (40–49, F, IC) mentioned that this was a concern he had about the apartment buildings being built next door to him. He noted that because where he currently lived there are large undeveloped sections beside them, "there's actually some really nice trees and bird life—there's tui and all sorts, wood pigeons—all around us because of that...but that's probably going to go, those trees are going to be lost." However, he did not think that a loss of urban green space was an inevitable consequence of building more MDH, and that it could be avoided "by providing park-like surroundings, shared space, getting away from that image of your little 4 m^2 block where you hang up your washing." Nevertheless, as the following discussion explores, he thought developers are unlikely to include these features in MDH.

Housing quality and "slumification"

Reflecting interviewees' concerns that in reality MDH would not be designed to ensure it provided advantages of living in it such as convenience or to counter the potential disadvantages, interviewees tended to be sceptical that MDH would actually be designed to be visually appealing and contribute to neighbourhood amenity and community. ON2 pointed out made the following comment, articulating a view shared by most interviewees:

> *"If you're a developer, generally your approach is to make money, right? Sure, well, otherwise why would you do it? So, therefore you are going to get as many problems on there as you can, and you are just going to provide the bare minimum."* **(ON2, 40–49, F, IC)**

Based on his own experience in renovating houses, ON2 also emphasised that good design "does take a bit of thought; it's really easy to get it wrong, and it's quite hard to get it right." He mentioned that in his experience, he and his wife have ended up with a less-than-ideal result even when they had good intentions, and so "if you don't have the intent in the first place, the chances [of the outcomes being good] are pretty low."

As well as mentioning poor design as a disadvantage in terms of reducing amenity, interviewees also often mentioned it along with poor construction in relation to the potential for building more MDH to become "slums" of poor quality housing for low SES residents. Most interviewees discussed this slumification in terms of the impact it would have on low SES residents, but a few were more concerned about its impact on existing residents and neighbourhood amenity.

Regarding the first point, interviewees usually mentioned that although they wanted MDH to be affordable, they also did not want this to be achieved by cutting corners on design and construction. As one survey respondent put it: "beware of low-cost buildings creating substandard living in times to come." Interviewees recognised—as mentioned briefly in the previous section—that as Dunedin's housing affordability declines, residents will be more willing to live in MDH, even if it is poor quality. Several interviewees were concerned that this could lead to the ghettoisation of low SES residents in MDH, while wealthier residents continued to live in standalone houses. This was something that AC1 (25–29, C, IC) had seen personally; her attached townhouse in Australia was in a state housing neighbourhood that was, as discussed previously, visually unappealing. It was also a 20-minute drive or two buses from the CBD, and "even the local supermarket was plonked a bus ride away", so the residents who did not have a car or driver's licence struggled to access different parts of the city. In her opinion, "it was kind of like a ghetto that was put there to solve housing concerns," with little consideration of residents' quality of life. Due to working as a transitional housing case worker, OC3 (40–49, F, OS) was particularly concerned about this, saying "I really feel like we don't want to ghettoise anything." She noted that this was not a problem exclusive to MDH, and that there are already suburbs in Dunedin "that are a little bit ghettoised," but thought exacerbating this was a risk if MDH was not well-designed. AN1 (18–24, N, IC) also emphasised that although this was a potential problem, it was not intrinsic to MDH, saying:

> *"I know that people have hang-ups with apartment buildings turning into slums and what not, but I feel like that's not necessarily a MDH problem so much as it's an actually regulating construction problem."*

The kind of views that AN1 referred to were likely those held by ON1 and ON3, who expressed concern about the impact of MDH housing low SES residents on nearby neighbourhoods. ON1 thought that one disadvantage is that the value of the properties surrounding a development could drop, and that "people would be totally turned off" if they thought MDH would be built for beneficiaries and would become "a very rough building." She noted that this was a concern for residents in her neighbourhood, in relation to the nearby Toiora High St Cohousing:

> *"I think for most of residents, what their concern is, is the quality of the housing, and what sort of people move there, and what kind of impact it's going to bring into our own area with the house value...of course we would hope that it would be young professionals with no kids, but if you have a lot of...you know Moana House [a residential programme that supports adult male offenders] is only one block away, so if you have that sort of people live there, the value of the whole area would kind of go down, I would suspect."* **(ON1, 30–39, F, IC)**

ON1 mentioned that this happened in a lot of suburbs in Europe, where "rough people move into some suburbs, and good families all move out" and the property values of the suburbs dropped, "and some families, they lived there for generations, but because of the environment they're forced to move out." Rather than being concerned about the impacts of ghettoisation on low SES residents, ON1 thought that it made more sense for these residents to be housed in South Dunedin. ON3 expressed similar views, although he did not mention property values, saying:

> *"You end up with a lot of people you wouldn't necessarily want to live around yourself, and they look like they might do drugs or be unemployed, or trying to better themselves...that sounds really awful and judgemental, but you don't necessarily want to live around people like that—they're playing loud music all day because they haven't got jobs and they're not looking for them! And that's what I worry, that some*

MDH, no matter how good it is now, could end up like that if it becomes more unkempt." **(ON3, 40–49, O, OS)**

ON3 did think that good design could help prevent slumification, as this could "just lift it that bit more, as opposed to just throwing something in as cheaply as possible, and not caring about who moves in afterwards." He compared this to Toiora High St Cohousing, which, due to being well-designed and constructed and built by people who want to live there long term, is unlikely to become a slum, as "you end up with good people going in there and maintaining them." However, both ON1 and ON3 were concerned MDH becoming slums *because* of low SES residents living in it, whereas other interviewees thought this could be avoided by designing and constructing it well, regardless of who lived in it, and ensuring MDH did not isolate a large group of low SES residents within neighbourhoods. AN1 (18–24, N, IC), for instance, pointed out that "you'd circumvent a lot of the slumlord-type problems just by having it be well built...a poorly managed, well-built building is going to be less of a slum than even a well-managed poorly built building."

Planning

Although not a disadvantage of building more MDH per se, it is important to note that a number of interviewees emphasised that building more MDH could result in negative outcomes such as the overburdening of transport and other infrastructure due to poor planning. One survey respondent commented that "parking space is usually also an issue," and several interviewees also mentioned this. OC1 (25–29, C, IS), for instance, noted that not only would car parking space be essential if she was to live in MDH, but that building MDH without sufficient car parking "could taking away parking that a church might need down the road, or whatever's in that community." AN1 (18–24, N, IC) also acknowledged this was an issue, despite not driving himself, and along with other interviewees including OC1 and OC3 (40–49, F, OS), pointed out that improved public transport infrastructure would be essential to preventing traffic congestion and reducing car dependency. They all thought that currently, Dunedin's public transport was, as OC1 said, "very much lacking." A few interviewees expressed a lack of confidence in decision-makers ensuring that housing provision was supported by infrastructure. For instance,

ON4 (65–74, F, IS) had very little faith in the DCC and ORC doing long-term planning so that infrastructure was upgraded to support increases in housing density, saying "It's a huge challenge, and it's way beyond the ability of anybody in Dunedin to even think [of], let alone design [for]."

6.4.4 Not in my back yard

NIMBYism was not a focus of this research, but several interviewees did express this sentiment, and one survey respondent commented: "Dunedin does have a mixture of, in my opinion, good and bad MDH already. I believe a lot of the challenges faced with MDH are people who say yes they like the idea but not next to me." ON3 and ON4 felt most strongly that they did not want to have MDH built in their suburb. ON4 (65–74, F, IS) said that he was not opposed to it in certain areas of Dunedin, as long as he did not have to look at it. ON3 (40–49, O, OS) said he was not concerned about building more MDH in Dunedin "if it's done with thought, and high quality materials, and a thought to the future, and full aesthetics," and, further, "I see it as being a necessary thing moving forward...however, I would hate to live in it, and I'd hate it in my back yard." ON1 (30–39, F, IC) was actually experiencing MDH being built in her neighbourhood, and she was supportive of it provided it housed professional couples or middle-class families. ON2 (40–49, F, IC) also had MDH being built on a neighbouring property, and he was supportive of it provided it was designed and constructed well.

Some particularly interesting points were raised by OC3 (40–49, F, OS). Due to working in transitional housing, she was generally critical of NIMBYs. However, her parents-in-law, who also live in Dunedin's outer suburbs, are going to have new MDH state houses built next door to them to replace old standalone state housing. She noted that her parents-in-law are concerned about the new housing, as they feel that their suburb should not be any denser, and that it will negatively affect the existing residents, including through the visual impact of having tall buildings at the end of their garden. OC3 said that this led her to think more about the impacts of urban intensification on existing communities, and she realised that something similar could happen to the many state houses in her suburb, with the result that "the density ups quite significantly, and there's potentially more cars up there, more people. And as we chose to buy in that

suburb when it didn't have that...personally, I'm not sure where I sit on that." In this sense, she thought it could be easier to build MDH as part of new mixed-density suburbs near somewhere like Mosgiel rather than intensifying existing suburbs.

6.4.5 Summary of views on building more MDH

The vast majority of survey respondents were supportive of building more MDH, and the types of MDH and where they supported building it generally reflected where and what type of MDH they would consider living in. Once again, there was a preference centrally-located MDH, and lower-density typologies were preferred outside the inner city.

The results suggest that most people supported building more MDH due to its potential social and environmental benefits. In particular, providing more housing options was the most commonly selected and widely appealing advantage; in general, it seems that most respondents thought ensuring that all Dunedin's residents can afford a good quality housing that meets their needs and preferences is important. While some respondents thought MDH could improve the amenity of Dunedin's neighbourhoods, most thought that a disadvantage of MDH was that it would *reduce* neighbourhood amenity. Although this was not seen as inevitable, it was seen as likely; once again, the interviewees lacked faith that developers would ensure MDH was well-designed. Related to this, a sizeable minority of respondents were concerned that MDH would be poor quality and would result in the slumification of neighbourhoods. The interviewees suggested that not all respondents were concerned about this for the same reasons: some worried about the ghettoisation of low SES residents, while others were more concerned about how this could impact neighbourhood amenity and property values.

The following comments from a survey respondent and from OC3 encapsulate what seem to be the views of most respondents: that building more MDH is valuable in terms of using land more efficiently and ensuring the needs and preferences of all residents are met, but that it needs to be done well to provide these benefits.

> *"I think MDH which suits people's needs should be built even if it doesn't suit my needs, but it needs to function well for its intended residents (and*

they need to exist and be interested) and its success will depend somewhat on how it looks to passers-by too."

"I think it's crucial, really, that we get more diversity in the way that we look at our housing, and it gets more efficient to build, so we can put more of it up, and we use a little bit less land space." **(OC3, 40–49, F, OS)**

6.5 Encouraging acceptance of MDH

A key focus of this research was the influence of the design of MDH on community acceptance of it, and how greater acceptance can be encouraged. While the above findings give some indication of the influence of design on the acceptability of MDH, survey respondents were also directly asked about the extent to which the design of MDH influences their acceptance of it. Survey respondents were also presented with examples of well-designed attached townhouses and apartment buildings and asked which design features positively influenced their views on these types of MDH. They were then asked in what circumstances they would live in and where they would support building more attached townhouses and apartment buildings if they were similar to the examples. This section explores the findings in relation to these questions, and the interviews and freeform survey responses provide additional detail about the importance of different design features. The section concludes with a discussion of how to effectively engage with the community to encourage acceptance of MDH.

6.5.1 The influence of design

The results suggest that design influenced respondents' acceptance of MDH. At the conclusion of the survey, respondents were asked how much the design of MDH influences both whether they would live in it, and whether they would support building more of it in Dunedin, on a scale of 1 ("not at all") to 10 ("completely"). As Table 6.7 shows, respondents in all age groups tended to think that design almost completely influenced both aspects of their acceptance of MDH. This supports the interview results

that suggested most respondents may actually be aware that many of the advantages and disadvantages of MDH are largely dependent on its design.

Table 6.7 The extent to which respondents' thought the design of MDH influenced whether they would live in or support building more MDH Dunedin on a scale of 1 to 10, where 1 is "not at all", 5 is "somewhat" and 10 is "completely.

Age	Living in MDH	Building more MDH
18–24	8	7
25–29	8	7
30–39	8	7
40–49	9	8
50–64	8	8
65–84	8	8
Average	8.2	7.5

The interviews, in combination with the survey results discussed in previous sections, provide insight into why respondents may think the design of MDH is important, and which features are most important to them. Overall, most interviewees thought that the design of MDH was pivotal for it to provide a good quality of life. AC1 (25–29, C, IC) noted that MDH could be very basic, where "everything's just kind of bare necessities and it's not actually very pleasant," and that if that was the case, then "people are only going to get the bare necessities out of life…it can have a little bit of extra, and people are going to have a bit of extra quality of life out of that." Similarly, ON3 (40–49, O, OS) felt that "if you're going to be living in something, the quality of it is paramount," and that good examples of MDH he knew of were better because "all the little things they can do to try and make it more pleasant is going to just lift it that bit more as opposed to just throwing something in as cheaply as possible." Several interviewees also emphasised that MDH needs to be well-designed for people to want to make it their home, as Section 6.4.3 touched on. OC4 (65–74, O, IS), for instance, noted that in the Australian cities she had visited, she felt she was somewhere that the needs of people were being considered. AC1 and AC3 (65–74, C, IS) made similar comments, encapsulated by the following quote:

> *"I think it comes down to it shapes people's feelings of self-worth and things. I think to actually feel cared about…you know, it's not just a house, for people living there it's their home, and if you want people to stick around and build communities, they have to feel that they actually like and love that home and that environment."* **(AC1, 25–29, C, IC)**

Regarding exactly what is most important for MDH to provide a good quality of life and appeal to a range of people, a number of design features emerged. As was discussed in Section 6.3.2, it seems that for most respondents, one of the main attractions of living in MDH may be the prospect of shorter commutes and/or easy access to urban amenities. Accordingly, interviewees usually thought that MDH should mostly be in the inner city or inner suburbs or, if it is further out, adequately serviced by public transport. AC1 (25–29, C, IC) thought that this would "sell the lifestyle, instead of just the house," Several interviewees made similar comments, and one survey respondent said, "the location of where more MDH would be built and its proximity to shops and public transportation would factor into my thought process (separate issue but relevant in my choice to live in denser housing)." Regarding suburban MDH, several interviewees thought that MDH was most appropriate in or near a centre so that its occupants are still within walking distance of urban amenities. As one survey respondent

Privacy was another major issue, and several features were mentioned frequently as essential if MDH was to provide adequate privacy, especially acoustic privacy, private open space and a sense of space provided by an outlook onto green space rather than directly onto another dwelling. Interviewees made comments such as:

> *"What would be important to me is that the apartments are really soundproofed as well as possible."* **(OC2, 40–49, F, OS)**

> *"You need to have somewhere where you can be outside, and not be completely exposed to everyone."* **(AC2, 30–39, C, IS)**

> *"It would really depend on what the MDH was like, what its view was like. I wouldn't mind it if there was a row of trees, just greenifying the view."* **(OC2, 40–49, F, OS)**

> *"I think part of the important thing with MDH is finding ways [such as having green space] to make it feel less cramped, because that will pull in people who otherwise wouldn't want to live there."* **(AN1, 18–24, N, IC)**

Several interviewees emphasised that private open space needs to be a usable size, and that this is an issue for balconies especially; AC3 (65–74, C, IS) mentioned that he had stayed in an apartment in London where the balcony was so small that "there was hardly room for a chair," and it was only used for storage. Additionally, some interviewees felt strongly about being able to come and go without meeting their neighbours. For them, having private entrances to their dwelling with a transitional space that provided visual separation from adjacent dwellings would make MDH much more appealing.

Interviewees who were attracted to the prospect of having a greater sense of community thought it was important to provide opportunities for neighbourly interaction, such as communal open space. A few interviewees also mentioned that communal kitchen space that residents have the option of using could be beneficial, and similarly, one survey respondent commented that "best practice community housing includes kitchen areas." Another respondent said that they had lived in an apartment building serviced by rail near a large city in the 1960s, which had "some really neat design features that made for many to be housed and neighbourly relationships to flourish." However, all these interviewees also emphasised that how these opportunities for interaction were provided needed to be carefully thought out, so residents still had adequate privacy and there was a clear understanding of whose space was whose.

> *"I think that's also something that we really need to be mindful of, that these buildings are designed in such a way that running into your neighbour is kind of an easy thing, without having to squeeze past each other in the stairwell."* **(OC2, 40–49, F, OS)**

> *"This is a child-friendly part of our community garden, this is definitely not a dog-friendly part…I think some kind of expectations around that, that people can adhere to."* **(AC1, 25–29, C, IC)**

Another feature that emerged as particularly important was access to open space, particularly green space. While a few interviewees thought that communal open space

would suit their needs, most said they would prefer to have some small area of private open space where they garden in or simply enjoy being outside in privacy, such as a back yard or roof garden, as well as access to communal and/or nearby public. These interviewees also thought this option would have broader appeal, making comments similar to OC3, who said:

> *"I think the attraction of having a well-designed garden space, and particularly if there's green space nearby, you know, parks, avenues, whatever, then it takes away the need to have your own garden in your back yard."* **(OC3, 40–49, F, OS)**

Along with adequate floor space, having direct access to open space was seen as one of the key determinants of whether MDH was suitable for children. As discussed in Section 6.3.3 interviewees thought that children should be able to go straight outside and play without parental supervision.

Accessibility was another key issue, and as well as having adequate public transport, interviewees emphasised the need for adequate car parking space, with a few also few noting that bike parking space should be provided. This was something missing from the attached townhouse that AN1 (18–24, N, IC) lived in; in fact, the house did not even have any eaves, so he had to keep his bike under a tarpaulin. AN1 and AC1 (25–29, C, IC) both thought that universal design is important, as did several survey respondents. One respondent made a comment that summarised this view, saying: "I also think universal/inclusive design principles need to be included in any proposals from the beginning of any design phase to ensure diversity of needs are considered (including people with disabilities—and not just physical), gender, ethnicity, age etc."

Although visual appeal and character are, to an extent, subjective, interviewees mentioned a number of design considerations that could ensure that MDH is more visually appealing and makes a positive contribution to neighbourhood character. One was responding to the neighbourhood context, in terms of height and overall scale in relation to the surrounding density. As ON2 (40–49, F, IC) said, "it's gotta fit with its surrounding environment," and should therefore be in the inner city or centre rather than "just popping up randomly out in the wops." Comparing Grendon Court on Drivers Rd, Maori Hill to Cargill Court on Arthur St, Dunedin Central, he noted that although their

scale and aesthetic were similar, Grendon Court looks out of place, but Cargill Court doesn't "because you've got other buildings of a similar scale around it." Interviewees also mentioned that there was a need to, as ON3 (40–49, O, OS) put it, "try to tell the Kiwiana flavour" in the design, such as by using materials that are common in Dunedin. A few interviewees specifically mentioned red brick and especially timber as appealing materials that belong in Dunedin. The relatively new standalone houses on Arthur St than ON2 mentioned are one example of this (see Figure 6.20), and AN1 (18–24, N, IC) thought The Cedar Luxury Apartments were an example of MDH that fits within Dunedin's "urban aesthetic" (Figure 6.22). Beyond this, interviewees simply emphasised that thought should go into making sure MDH does not look monotonous and feels like a home, rather than an office building or hotel.

> *"If a developer is building a bunch of [attached] townhouses in the same place, there's a chance that they ended up the same and you just end up with this vast tract of flats. So, I think putting consideration into...how are we going to make them all a little bit different?"* **(AN1, 18–24, N, IC)**

> *"I guess one thing I would personally struggle with would be MDH where it just looks like a slightly larger hotel room…I think that would be another thing with the design: that you've got to kind of make people feel like they're not just living in a glorified, slightly larger hotel room. The design needs to be kind of fun, you know?"* **(OC2, 40–49, F, OS)**

Figure 6.22 The Cedar Luxury Apartments on Great King St, Dunedin which AN1 (18–24, N, IC) thought fit within Dunedin's urban aesthetic

Interviewees also thought that landscaping has considerable influence on the visual appeal of MDH. OC1 (25–29, C, IS) that having greenery is vital if MDH is not going to feel too commercial, and that without it "it just gets a little bit too grey." Similarly, AN2 (40–49, F, OS) recalled that part of the reason the suburbs of attached townhouses she saw in Bristol were unappealing was that "it was all concrete, and around the outside there was no landscaping." Conversely, there were examples of MDH in Dunedin—Toiora High St Cohousing and a retirement home in Maori Hill—that she thought looked more pleasant because the buildings did not take up the entire site, and the site also had landscaped edges. OC4 (65–74, O, IS) also pointed out that in her experience, London has so much greenery that "the density of the place never offends."

Finally, several interviewees emphasised that if MDH is built, full advantage should be taken of the opportunity it presents for creating housing that has high environmental performance. This was mainly discussed in terms of energy efficiency, but micro-energy generation and the consumption and waste of other resources were also mentioned, with interviewees making comments to the effect that solar panels, rainwater harvesting and passive housing should become the norm.

However, although these features emerged as particularly important, a few interviewees highlighted the importance of recognising that people choose housing by making complex trade-offs, and therefore of considering what trade-offs they might be making by living in MDH. Most often, this was discussed in terms of mitigating and counteracting the disadvantages of living in MDH. AC1 (25–29, C, IC), for instance, thought that to encourage people to downsize, MDH should be "appealing enough that they don't feel they're making a huge compromise. Make it actually a lifestyle choice, not just 'oh, this is it now.'" OC3 (40–49, F, OS) noted that while MDH will always be less private than a standalone house, it can be designed so that this is a trade-off people are willing to make and thought Toiora High St Cohousing was an example where this had been taken into account. OC2 (40–49, F, OS) was particularly concerned that this decision-making process is not oversimplified, because no home is perfect. He said he would take into account all the aforementioned design features, as well as other factors such as affordability, and that "there's probably not one overriding factor…it might tick half tick some boxes, actually tick other boxes, and not tick any other boxes." For example, OC2 mentioned that an apartment might have ideal views and sun, but consequently a little less privacy,

or that the community of residents might not be ideal, but the apartment is more private, and in both instances he would probably accept that trade-off. Similarly, ON2 (40–49, F, IC) described how he and his wife had recently renovated and rented out an old villa, noting that because they made it a liveable home—by adding double glazing, insulation and heating—"the tenants love it, despite that during the winter it gets no sun." He pointed out that "it's about making the most of the site," considering what it lacks and how to counteract those disadvantages.

Additionally, several interviewees thought that for MDH to be designed well—in terms of providing a good quality of life and belonging in its surrounds—community engagement was essential. Two interviewees emphasised the value of having prospective residents involved in the design process design process. AC3 said:

> *"I guess if you're building a group of houses like this, you're not just building a group of houses, you're building a neighbourhood…so as best you can, you've gotta consult the people who are going to be in this neighbourhood, your landscaping, all that kind of thing is part of the build."* **(AC3, 65–74, C, IS)**

He felt that in a lot of current housing developments, whether higher-density housing or subdivisions of standalone houses, "it doesn't appear to me that any thought is being given to how these all relate together—the ecology of it, if you like." ON4, who was overall the least accepting of MDH, regardless of its design, still thought that it could be better if the views of prospective residents were reflected in its design. He mentioned that he had learned about an architect who was known for building something, but not adding any landscaping for a year, to see how people responded to it, and:

> *"Once he saw the pattern of where they wanted to walk, and how they lived in it, he then designed the paths and that sort of thing…instead of coming up with 'this is the finished idea', sometimes I think you do have to say, well, here's conceptually the first part, and the living part is going to come as a whole new thing—it's not just a tack on the side, but it's a complete living package."* **(ON4, 65–74, F, IS)**

6.5.2 The influence of well-designed examples of MDH

Survey respondents were asked which design features of the examples of well-designed attached townhouses (Figure 6.23) and apartment buildings up to 6 storeys (Figure 6.24) positively affected their views on them.

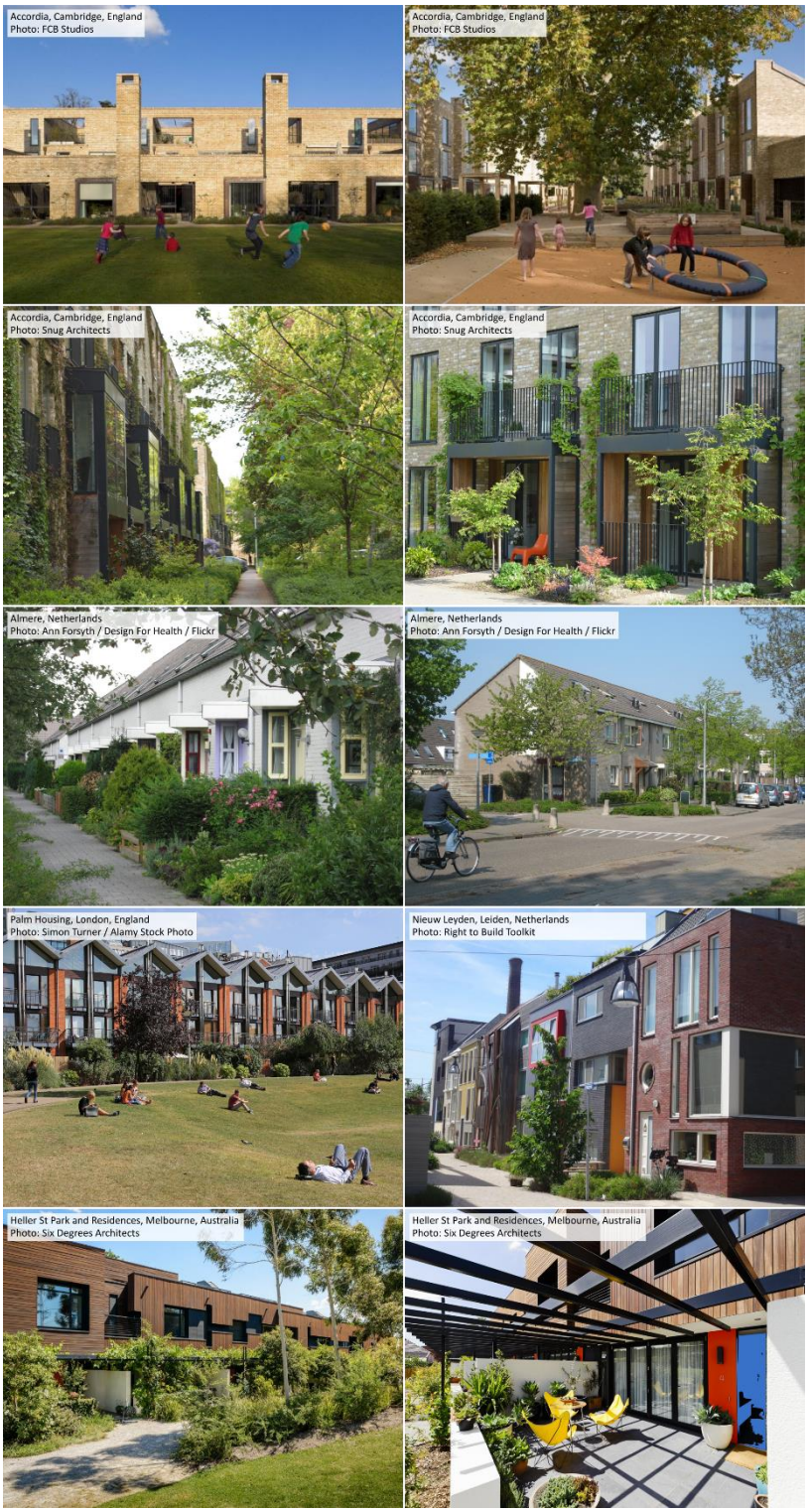

Figure 6.23 Examples of well-designed attached townhouses presented to survey respondents.

Figure 6.24 Examples of well-designed apartment buildings up to 6 storeys presented to survey respondents.

and Figure 6.25 shows their responses. Overall, the examples of attached townhouses had a greater positive impact than the examples of apartment buildings. This was particularly notable regarding the examples' suitability for children; the percentage of respondents who said the examples positively affected their view of attached townhouses (41%) was more than twice that of apartment buildings (18%). Additionally, while just 5% of respondents said no features positively affected their views on attached townhouses, 16% said the same with respect to apartment buildings. Looking at specific design features, the amount of greenery was the most commonly selected feature that positively affected respondents' views on both attached townhouses (76%) and apartment buildings (58%). For attached townhouses, the next most commonly selected feature was access to open space (65%), while "amount and/or design of private open space" and "design of open space" were chosen by around 60% of respondents. This suggests that the amount of greenery and access to well-designed open space, including private open space, were what had a positive influence on most respondents' views. These were also among the more commonly selected features for apartment buildings, all chosen by around 40% of respondents.

Another of the most commonly selected features was construction quality, which positively affected 63% of respondents' views on attached townhouses, and 50% of respondents' views on apartment buildings. Similarly, provision of natural light and the look of the buildings had a positive effect on around 60% of respondents' views on attached townhouses, and around 40% of respondents' views on apartment buildings.

A number of features were selected by notably fewer respondents. For apartment buildings these were the ability to accommodate a variety of households or needs, suitability for children and pets, and privacy, with the latter three all being selected by less than 20% of respondents. For attached townhouses, although still selected by a considerable proportion of respondents, the ability to accommodate a variety of households/needs (50%), the street frontage (45%) and suitability for children (41%), were selected somewhat less frequently, and 30% of respondents agreed that the level of privacy and suitability for pets positively affected their views of attached townhouses. Overall, it seems that the examples had the least positive influence regarding suitability for pets, level of privacy and, for apartment buildings, the ability to accommodate a variety of households or needs, including children.

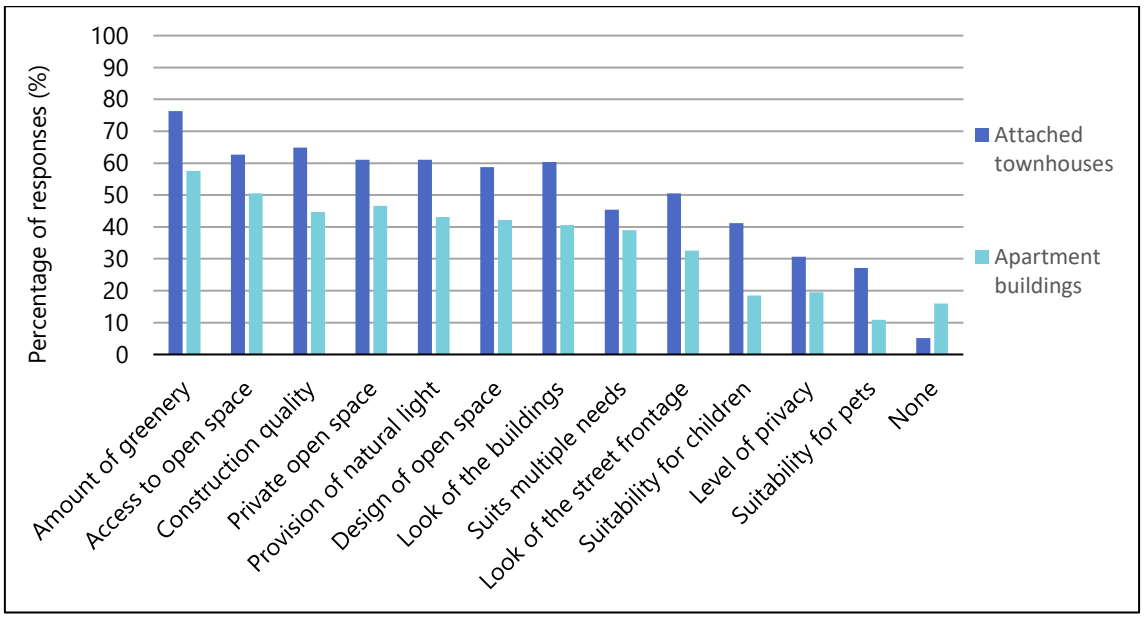

Figure 6.25 Design features of examples of well-designed attached townhouses and apartment buildings that positively affected survey respondents' views.[6]

Regarding the influence of age, Figure 6.26 and Figure 6.27 suggest that the amount of greenery in the examples of both attached townhouses and apartment buildings positively affected the views of more 18–24 year olds than respondents in older age groups. Additionally, notably more 18–24 year olds selected "design of open space" in relation to attached townhouses, and this was the case for both 18–24 year olds and 25–29 year olds in relation to apartment buildings. As fewer 18–24 year olds thought that a low-maintenance garden was an advantage of living in MDH, and they were more likely to consider not having a large private garden a disadvantage, this may indicate that in terms of access to green space, young people are more concerned about having access to well-designed open space, especially green space, than necessarily a large private garden.

[6] The design features in Figure 6.25, Figure 6.26 and Figure 6.27 have been abbreviated. In full the options presented to respondents were: amount of greenery; construction quality (e.g. sound and thermal insulation, double or triple glazing); access to open space; amount and/or design of private or semi-private open space (e.g. balconies, patios, courtyards, back yards); provision of natural light; look of the buildings; design of open space; look of the street frontage; ability to accommodate a range of needs/household types; suitability for children; level of privacy; suitability for pets.

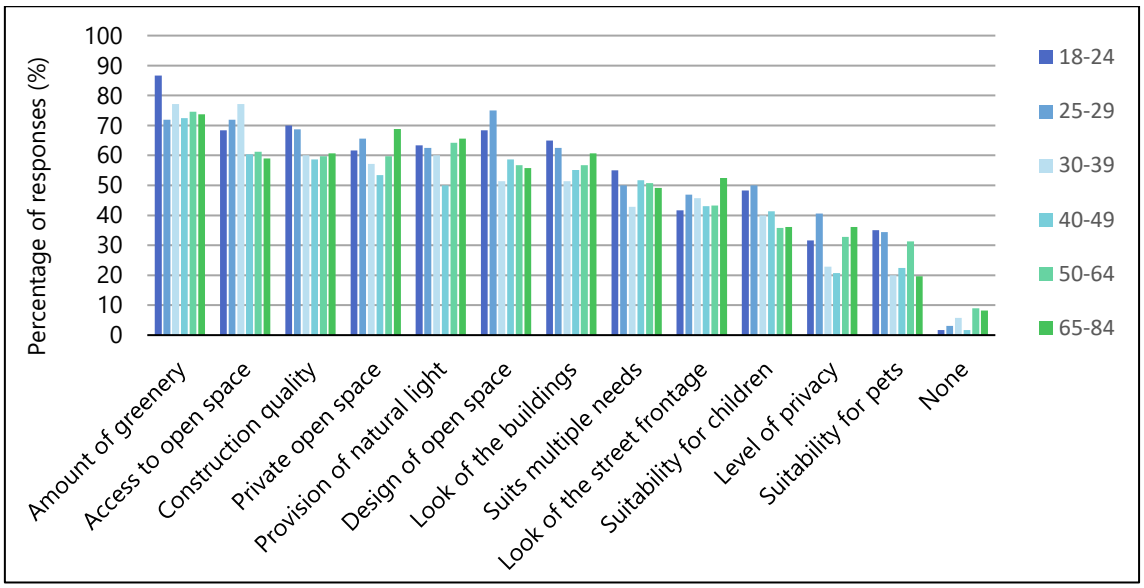

Figure 6.26 Design features of examples of well-designed attached townhouses that positively affected the views of survey respondents in each group.

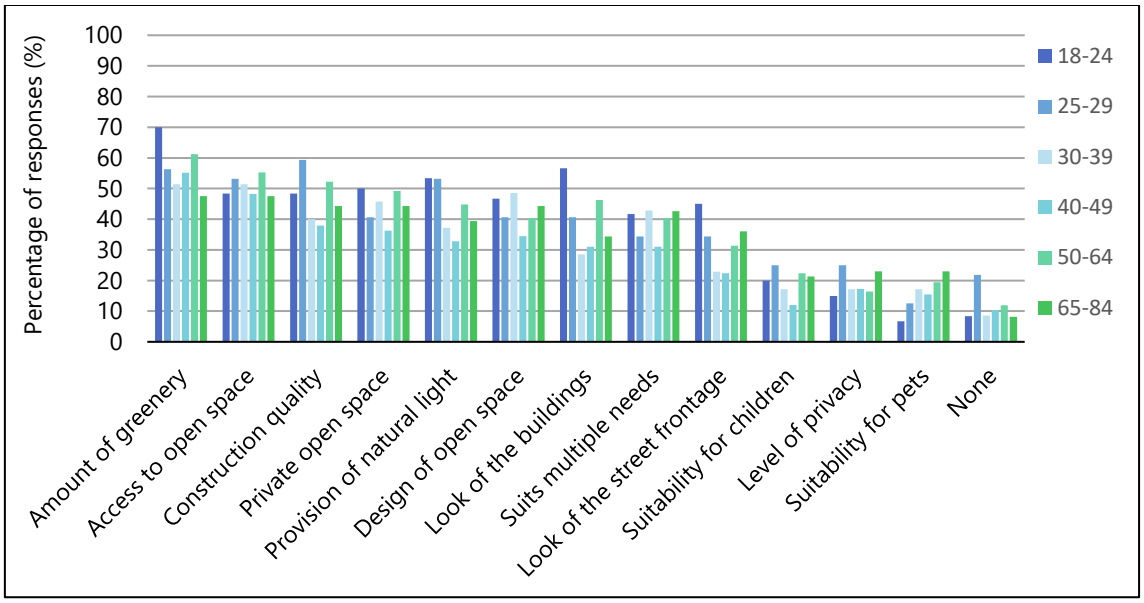

Figure 6.27 Design features of examples of well-designed apartment buildings that positively affected the views of survey respondents in each group.

Figure 6.28 shows that after being presented with the examples of well-designed MDH, the there was an increase in willingness to live in MDH; the percentage of respondents who selected each circumstance increased, with the exception of "ne ver." Unsurprisingly, the smallest increases were in the number of respondents who would consider living in MDH as a young adult without children (6%) and downsizing for health reasons (8%), as these circumstances were already the most commonly selected. However, the percentage

of respondents who would consider living in MDH as middle-aged adults rose from 56% to 70%, and from 27% to 42% for living in MDH while raising children. Therefore, more than 1 in 10 respondents who previously would not consider living in MDH in each of these circumstances changed their minds after seeing the examples. Of particular note is the increase in the number of respondents who selected "while raising children"; relatively few respondents selected this option before seeing the examples, so it had the greatest percentage increase (56%).

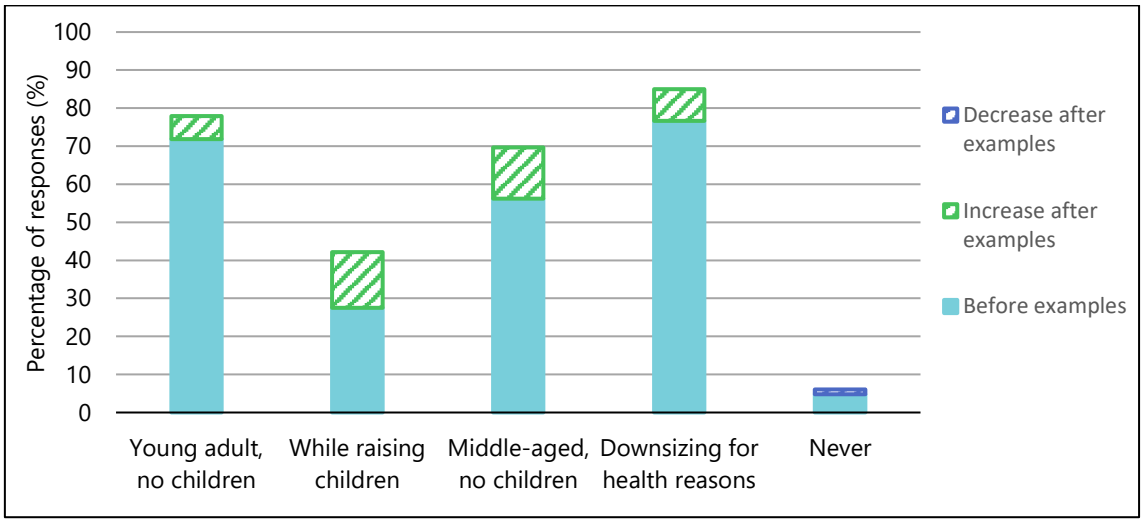

Figure 6.28 Change in the circumstances in which survey respondents would consider living in MDH after seeing the examples of well-designed MDH.

Additionally, Table 6.8 shows that the greatest increases were among 18–24 year olds; after seeing the examples, around 25% more respondents in this age group said they would consider living in MDH while raising children, as middle-aged adults without children, or when downsizing due to health, making the total percentages 70% , 75% and 92%, respectively. In other words, 1 in 4 respondents aged 18–24 who previously would not consider living in MDH in one of these circumstances, changed their minds after being presented with the examples.

Table 6.8 Change in the circumstances in which survey respondents in each age group would consider living in MDH after seeing the examples of well-designed MDH. The table shows the percentage of respondents in age group who selected each circumstance before seeing the examples (B), after (A) and the change in the percentage of responses (C).

Age	Inner city			Inner suburbs			Outer suburbs			Nowhere		
	B%	A%	C%	B%	A%	C%	B%	A%	C%	B%	A%	C%
18-24	97	98	**2**	43	70	**27**	47	75	**28**	65	92	**27**
25-29	88	97	**9**	44	63	**19**	69	69	**0**	72	69	**-3**
30-39	89	91	**3**	26	43	**17**	69	80	**11**	80	83	**3**
40-49	81	84	**3**	24	38	**14**	62	76	**14**	78	79	**2**
50-64	55	66	**10**	21	28	**7**	63	67	**4**	82	91	**9**
65-84	97	98	**2**	43	70	**27**	47	75	**28**	65	92	**27**

In terms of the types of locations of MDH that people supported building MDH in, the results were less clear cut, as shows. Regarding attached townhouses, 10% more respondents said they would support them being built in the inner suburbs, and 21% more supported them being built in the inner city, after seeing the examples. However, 13% fewer respondents supported them being built in the outer suburbs. Similarly, 10% fewer respondents supported building apartment buildings in the inner city, if they were similar to those shown in the examples. The rest of the changes were negligible. Table 6.9 and Table 6.10 show that there are no clear trends in these changes among age groups.

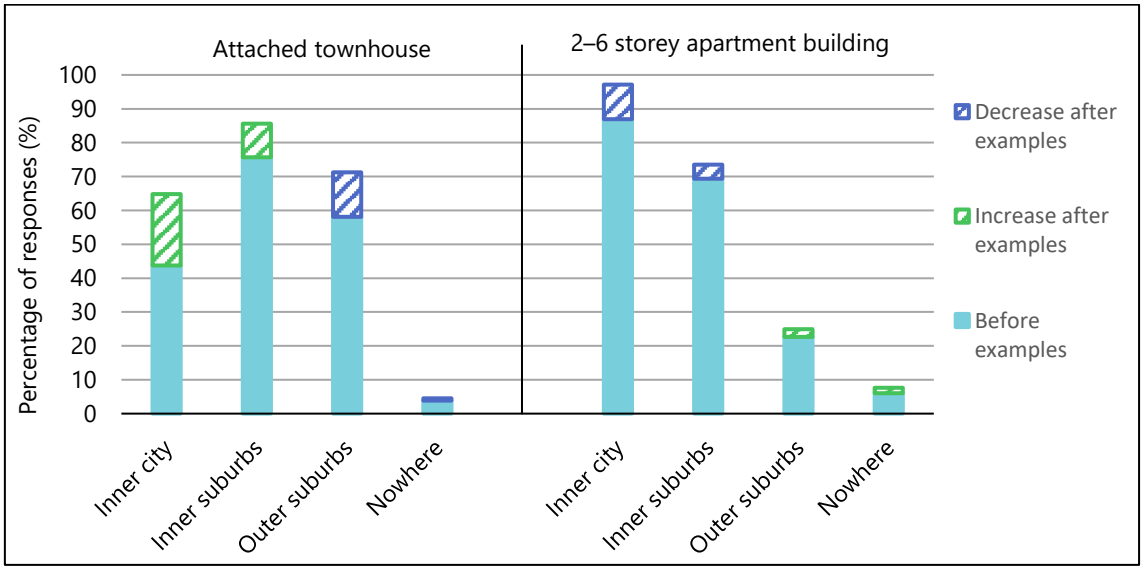

Figure 6.29 Change in survey respondents' support for building different types of MDH in different locations after seeing the examples of well-designed MDH.

Table 6.9 Change in the support of survey respondents in each age group for building attached townhouses in different locations after seeing the examples. The table shows the percentage of respondents in age group who selected each circumstance before seeing the examples (B), after (A) and the change in the percentage of responses (C).

Age	Inner city			Inner suburbs			Outer suburbs			Nowhere		
	B%	A%	C%	B%	A%	C%	B%	A%	C%	B%	A%	C%
18-24	45	65	**20**	87	90	**3**	52	48	**-3**	5	5	**0**
25-29	53	75	**22**	81	84	**3**	66	50	**-16**	3	0	**-3**
30-39	51	63	**11**	74	89	**14**	57	46	**-11**	3	6	**3**
40-49	47	62	**16**	76	86	**10**	52	41	**-10**	7	2	**-5**
50-64	30	60	**30**	64	85	**21**	69	48	**-21**	4	4	**0**
65-84	46	69	**23**	75	80	**5**	56	39	**-16**	0	2	**2**

Table 6.10 Change in the support of survey respondents in each age group for building 2–6 storey apartment buildings in different locations after seeing the examples. The table shows the percentage of respondents in age group who selected each circumstance before seeing the examples (B), after (A) and the change in the percentage of responses (C).

Age	Inner city			Inner suburbs			Outer suburbs			Nowhere		
	B%	A%	C%	B%	A%	C%	B%	A%	C%	B%	A%	C%
18-24	93	78	**-15**	68	77	**8**	18	25	**7**	2	5	**3**
25-29	97	84	**-13**	63	56	**-6**	9	22	**13**	3	3	**0**
30-39	89	77	**-11**	80	74	**-6**	23	14	**-9**	9	11	**3**
40-49	84	76	**-9**	66	57	**-9**	19	26	**7**	9	9	**0**
50-64	87	78	**-9**	73	66	**-7**	28	27	**-1**	6	9	**3**
65-84	77	70	**-7**	67	61	**-7**	31	30	**-2**	8	8	**0**

The design features of the examples that positively influenced the most respondents' views generally reflect the features that emerged as particularly important in Section 6.5.1. In particular, the increase in willingness to raise children in MDH following seeing the examples was likely due to the amount of greenery, access to and design of open space generally, and the amount and/or design of private open space shown in the examples. The other noteworthy result is the increase in support for building attached townhouses in the inner city and inner suburbs, and the decline in support for building apartment buildings in these same areas. A likely explanation for this is that several of the examples of attached townhouses and all the examples of apartment buildings were taller and overall larger in scale than most respondents thought was suitable for these areas. Interviewees often mentioned that they could see several of the attached townhouse examples (such as Nieuw Leyden and the 4-storey attached townhouses in

Accordia in the inner city), but not in the suburbs. Similarly, most interviewees thought that the examples of apartment buildings were too large to work in Dunedin's suburbs, or even in the inner city. Most of these interviewees mentioned that if the apartment buildings were a half or a third of their current size—and especially were not more than 3 or 4 storeys tall—they would be more supportive of building them in the inner city and inner suburbs.

6.5.3 Approaching community engagement

Although this was not a key focus of this research, the interviews did highlight some considerations in relation to approaching community engagement on MDH. First, all interviewees thought that there needs to be greater understanding about what MDH actually is among Dunedin residents. Most interviewees had heard the term 'medium-density housing' before and had a vague idea of what it meant. However, they were often unsure about exactly which dwelling types it included and what it meant in terms of the density and height of buildings. Typically, they made comments similar to AC3 (65–74, C, IS): "I was familiar with it, but I wouldn't say that I was very much informed about it…I suspect it's something that people [in Dunedin] have heard but aren't sure about and might be a bit suspicious of." A few interviewees thought that the term decided on—such as 'medium-density housing,' 'low-rise attached housing,' 'attached housing,' 'block housing,' 'multi-unit housing,'—was particularly important. This view is encapsulated by the following quote:

> *"Well, the average New Zealander who doesn't think about these things deeply, what's going to strike a chord…if you've got to explain the definition to people you've already lost the argument with most people out there, because people's eyes glaze over, and not everyone's going to care enough to look into it."* **(ON3, 40–49, O, OS)**

However, there was no agreement about what term was best, other than it probably should not have too many words. Some thought that "low-rise attached housing" was better, for reasons such as "it sounds more pleasant than just 'dense' housing," (OC1, 25–29, C, IS) and "it describes exactly what it is…certainly not high-rise apartments," (ON3, 40–49, O, OS). Others preferred MDH, because it had fewer words, and they felt that it

communicated the main message, which was that it was higher-density than standalone housing but was not high-rise apartments. As AC1 (25–29, C, IC), put it, "the idea of medium instantly feels like a happy balance."

However, interviewees thought that the specific term was less important than providing a clear definition and illustrating it; as OC2 (40–49, F, OS) said, "they all kind of lead back to the same start though: it's about higher density than what we've got in most suburbs," and whatever the term, people are not necessarily going to intuit the definition from the name. Regarding the definition itself, interviewees emphasised the importance of recognising that perceptions of density change depending on context. Consequently, most interviewees thought that Dunedin residents would think that anything taller than four storeys was high density—or potentially anything more than attached townhouses. ON1 (30–39, F, IC) and ON3 (40–49, O, OS) pointed out that in cities such as London and Hong Kong, a 6 storey apartment building is medium density, but in Dunedin it would probably be seen as high density. Therefore, they pointed out that this would need to be clearly established, and that more specific definitions could be more useful, such as attached townhouses, and apartment buildings up to 2 storeys, 4 storeys and 6 storeys. Regardless of the definition, interviewees typically thought it was essential to illustrate it, making comments such as the following:

> *"Maybe the term is not so important, as just illustrating it and defining it more clearly."* **(AC2, 30–39, C, IS)**

> *"Anything's going to be a bit fraught unless you can show people pictures of what you have in mind."* **(AC3, 65–74, C, IS)**

> *"I like to see what you're talking about—if you were talking about this without pictures, I'd be like 'what?'"* **(OC1, 25–29, C, IS)**

In terms of attitudes to MDH, interviewees did think that Dunedin residents typically had negative preconceptions about MDH, often due to both poor experiences with MDH, and simply not having had much exposure to MDH at all—particularly MDH done well. AC1 (25–29, C, IC), for instance, thought that her own experience of living in a suburb of attached townhouses that were poorly designed had led her to think that MDH would not work in a suburban setting, saying "it's only because I haven't come into much contact with situations where it's worked well." Similarly, ON3 (40–49, O, OS) thought

that many of his concerns about MDH turning into slums came from "just looking around some of those sorts of, like MDH from the 70s or something around Dunedin, you know places like Stafford St," that look dated and unkempt. More generally, AN1 (18–24, N, IC) pointed out that attached townhouses are not "some towering behemoth," and that "a lot of the people worried about [attached] townhouses making a suburb feel cramped, I'm not sure they're actually dealing with the reality of what [attached] townhouses are like."

> *"I think sometimes people who are opposed to it do worry about it being this kind of Soviet, completely undifferentiable concrete monstrosity"* **(AN1, 18–24, N, IC)**

> *"I think it's just perceptions, like, the public's perceptions of it need to be re…educated. Like, to see that kind of thing, as opposed to what they imagine when you say MDH"* **(AC2, 30–39, C, IS)**

For these reasons, interviewees typically thought that having examples of well-designed MDH was an important part of encouraging acceptance of it—both presenting residents with images of well-designed MDH, and, more importantly, having good examples in Dunedin. Regarding seeing images of well-designed examples, several interviewees mentioned that it both made them realise that MDH could be more attractive than they had imagined and simply encouraged to them to think about the variety of design possibilities and how design influences the outcomes—rather than seeing certain features as intrinsic to MDH or standalone housing.

> *"I probably thought, you know, the big sky-rise England-type thing with people sort of crowded into it, rather than this sort of thing."* **(AN2, 40–49, F, OS)**

> *"I probably wouldn't have imagined something as attractive as those [examples of MDH]"* **(OC4, 65–74, O, IS)**

> *"Now that I've seen all these pictures I'm thinking of places around town, and I'm like 'I guess that fits the bill!' It even makes me think of places I've been in the past and think, oh, yeah, that worked really nicely, it didn't feel anything other than non-dense housing."* **(AC1, 25–29, C, IC)**

> *"There's actually more designs of it that could work in the outer suburbs or inner city or in between, there's places for it…you've changed the way I think it can be done. I think at the start I'm like 'eh, no, don't want that,' but as you see more designs and talk about them, I think it's beneficial, [we] need more of it. It just needs to be in the right space and done right."* **(OC1, 25–29, C, IS)**

Generally, interviewees said that what was most important was seeing examples of well-designed MDH around Dunedin, saying, as ON3 (40–49, O, OS) did, that "people will get more used to it as there's more of it." AC2 (30–39, C, IS) especially highlighted that there is a lack of such examples in Dunedin, so that there is no "reference point" for residents; she, along with a number of other interviewees, thought that Toiora High St Cohousing could play an important role in encouraging greater acceptance of MDH.

> *"I think if we could get in some solid examples of nice [attached] townhouses, that would help a lot…I think just being able to point to examples we already have would be quite valuable. Or, you know, being able to put forward theoretical designs that you think would fit well within the city's aesthetic."* **(AN1, 18–24, N, IC)**

> *"Seeing what's possible. That it's not just a big brick building that goes up."* **(OC3, 40–49, F, OS)**

Some interviewees also thought that it was valuable to emphasise the social benefits of building more MDH, especially given the challenges of housing supply and affordability that Dunedin is facing, that they thought would only worsen as the new Dunedin hospital is built.

> *"I think a place like here, as you look around, the majority of what you're looking at is standalone homes…I think there needs to be more exposure around it and the benefits of it, and its place."* **(OC1, 25–29, C, IS)**

> *"Yeah, MDH, marketed towards the younger generation. Not build it then convert it into state housing straight away, that would really turn people off…then people can generally see it's to help the housing need, to see that it's to help Kiwis have house ownership."* **(ON1, 30–39, F, IC)**

The interviews also provided important insights into how examples of MDH should be presented if they are to be effective in encouraging understanding and acceptance of it. One was that it is important to situate examples in the Dunedin context, because "it is kind of hard to compare what works in London and what worked in tiny little Dunedin, or even most cities in New Zealand," (AC1, 25–29, C, IC). Even if interviewees did not explicitly say this, they often tried to place the MDH examples in Dunedin. OC3 (40–49, F, OS) for instance, tried to picture how the Almere townhouses would work on a street in her neighbourhood, while OC1 (25–29, C, IS) and ON1 (30–39, F, IC) wondered where in Dunedin Palm Housing and the Hammarby Sjostad apartment buildings would fit in Dunedin, respectively. Some interviewees identified that this is partly because Dunedin does not have many large sites where developments of a similar scale could be undertaken. Interviewees thought that it would be ideal to use local examples, and in particular that Toiora High St Cohousing "could be a real model for how they do things." Similarly, a survey respondent commented that this would have been a more interesting and relevant example of MDH.

Additionally, it was clear that it is important to provide as full a picture as possible about the reality of given example of MDH. This includes how it is depicted visually; several interviewees mentioned that some of the examples probably looked more appealing due to the photos of them being taken on sunny days. Similarly, OC2 (40–49, F, OS) mentioned, specifically in relation to Toiora High St Cohousing that although its design appealed to him, "you always want to be careful with the architects' drawings, because they always look amazing, and there's all these trees often drawn in that aren't actually there." Interviewees also often wanted to know more background to the examples:

> *"I'm one of those people that likes to see the bigger picture. I think seeing that bigger picture, and what else is around there and how guarded off that [communal open space] is."* **(OC1, 25–29, C, IS)**

> *"That's a snapshot, and we can do anything we like with a snapshot. Like, how much traffic goes through there? If I had a cat, could the cat wander around or are cats banned from these sorts of places? There's a lot unsaid about that, that I find it hard to be able to pass a judgement on."* **(ON4, 65–74, F, IS)**

Furthermore, AC1 (25–29, C, IC) emphasised that "you always see these places when they've just been built, but it's also cool to see how they've developer over the years, how they've withstood the test of time," and OC3 (40–49, F, OS) was interested in how successful Iroko Housing had been.

Finally, a particularly interesting theme related to community acceptance of MDH that ran through the interviews was that people accept what they are used to, and acceptance of MDH will require adaption. All interviewees commented that what you are willing to live with is influenced by your background, and that if they had grown up living in higher-density housing, they would probably find it perfectly acceptable. This was often brought up in relation to raising children, with most interviewees acknowledging that their idea of what makes a home suitable for children is influenced by their own experiences, and that in many cities people raise children in higher-density housing. AC3 (65–74, C, IS), for instance, noted that although he would not imagine families living in the Almere townhouses, people in the Netherlands are used to living in those kinds of housing. Similarly, ON1 (30–39, F, IC), had come to prefer living in a large standalone suburban home and thought this was better for children. However, she also thought that "children can't tell the difference. When I was little, we all lived in one room; everything—kitchen, lounge, bathroom—in the same room. But if you're born into that environment, you can't tell the difference, you're still happy." Interviewees also discussed this issue more generally, ON1 again mentioned that in China people are accustomed to living in apartment buildings, and are often happy with indoor plants, and even manage to have dogs.

> *"I think it's what sort of background you grow up with—most Asian people, they don't mind, you know. Like my mum, she cooks, she can see the neighbour's kitchen, they kind of can talk to each other, and she felt comfortable with that."* **(ON1, 30–39, F, IC)**
>
> *"Maybe if you grew up with that, then you accept that's what you do. But to me, I wouldn't feel comfortable taking a blanket and throwing it on that bit of ground."* **(ON4. 65–74, F, IS)**
>
> *"I think most people will use [MDH] as a stepping-stone, particularly as in New Zealand everyone always wants their standalone house and their*

quarter-acre section. I think it's going to take decades for that to properly go away." **(ON3, 40–49, O, OS)**

"The whole city [Paris] is just 5 to 6 storeys of stone apartments, and as a Kiwi you're just like 'I'm going to die!' So, you know, we will have to make peace with that." **(AN1, 18–24, N, IC)**

A number of interviewees—including those who were more accepting of MDH—highlighted that living in MDH is in fact different to MDH and will require adaptation. A few mentioned this specifically in terms of having a more communal lifestyle, with AC2 (30–39, C, IS) saying that while she thought that style of living had benefits, "I also get that people have gradually got out of the habit of that sense of community, and it probably takes more than just bunging them into MDH to foster that. You need to change some habits and expectations as well." Others discussed this change in more general terms, with AN1 commenting that "it's something that we haven't really learned how to live in or live with the same way other places have." Similarly, AN1 described how he had to adjust to being in a narrow, multi-storey attached townhouse in London:

"That was just a very big mental reorientation, like 'okay, it's one or two rooms per floor, but you've got all this upwards space.' Whereas I think—with the whole standalone single storey houses—we're very used to having a lot of horizontal space…you have the same amount of space, but it's dimensioned differently." **(AN1, 18–24, N, IC)**

However, most interviewees thought that it was both inevitable and desirable that Dunedin residents will adapt to living in and with MDH as more of it is built.

6.6 Conclusion

This chapter has presented the primary research findings, describing how willing to live in and how supportive of building more MDH respondents were, what they thought were the advantages and disadvantages of MDH, the influence of design on community acceptance of MDH, and key considerations when approaching community engagement. Overall, the findings point towards MDH being acceptable to most respondents, especially attached townhouses, although 2–4 storey apartment buildings in the inner

suburbs and apartment buildings up to 6 storeys in the inner city were also accepted by most respondents. Respondents were much more likely to consider living in MDH as older or younger adults without children, although a sizeable minority said they would consider raising children in MDH. The age of respondents appeared to influence their acceptance of MDH, with younger respondents generally finding it more acceptable.

Most respondents seem to be drawn to MDH due to its convenience, especially the convenience of living closer to town, but a sizeable minority may also find the prospect of having more opportunities for social interaction and a greater sense of community attractive. The results also suggest that more respondents saw these as greater advantages for younger and older adults, especially those downsizing for health reasons. Regarding the disadvantages of living in MDH, lack of privacy was the most commonly selected by respondents, and the interviews suggested that this was probably one of the main disadvantages to most respondents.

However, the results also suggest that, most respondents may think that lack of privacy and other disadvantages can be mitigated by the design of MDH, although they lack faith that this will happen in reality. Similarly, the findings suggest that most respondents think there are social and environmental advantages to building more MDH (providing more housing options, potentially improving affordability, reducing the rate of land consumption and reducing carbon emissions), but are concerned that it will be poorly designed and constructed, and therefore cause a loss of neighbourhood amenity. Furthermore, a sizable percentage of respondents were concerned about building more MDH resulting in slums of poor quality housing, either because they feared it would lead to the ghettoisation of disadvantaged residents, or that this would also reduce neighbourhood amenity, safety and property values.

Finally, the research findings suggest both that the design of MDH influences acceptance of it, and in particular, privacy, direct access to open space and visual appeal—especially in terms of the scale of MDH and how well it is landscaped—were key factors. Importantly, the results indicate that presenting respondents with examples of well-designed MDH can encourage greater acceptance of it, but that for this to be effective, the examples need to reflect what respondents want to see in MDH and allay their concerns about it.

7. Discussion and Conclusions

7.1 Introduction

This chapter critically evaluates the results presented in the previous chapter. It identifies the key research findings by revisiting the research questions, and places them within the existing body of research on the compact city and Dunedin's housing challenges, as explored by Chapters 2 and 4. Section 7.2 deals with the findings on the acceptability of MDH to Dunedin residents, addressing first the extent and then the nature of acceptance, Next, Section 7.3 discusses the findings on how greater acceptance of MDH can be encouraged. The chapter also presents the conclusions of this study: Section 7.4 identifies the main research implications, and Section 7.5 reflects on the study's limitations and suggests possible directions for future research. Section 7.7 outlines key recommendations for taking a compact city approach to housing provision in Dunedin, and Section 7.6 makes some concluding remarks about the study.

7.2 The acceptability of MDH

This research investigated both the nature and extent of Dunedin residents' acceptance of MDH. The first two research sub-questions addressed the extent of acceptance, asking how willing Dunedin residents are to live in MDH, and how supportive they are of building more of it in Dunedin. The third sub-question addressed the nature of acceptance by asking what Dunedin residents think the advantages and disadvantages are of living in and building more MDH in Dunedin, and whether these are related to its design. This section addresses the findings of these sub-questions, discussing how acceptable MDH is to Dunedin residents and the key factors influencing residents' acceptance of MDH.

7.2.1 The extent of acceptance

The vast majority of survey respondents said they would consider living in MDH at some stage in their life—only 6% ruled it out completely. However, it was clear that

respondents were more likely to consider living in MDH during certain life stages: a quarter of respondents said they would consider it while raising children, around half would do so as middle-aged adults without children, and more than 70% said they would consider it as young adults without children or when downsizing for health reasons. In line with the findings of numerous studies undertaken in New Zealand and overseas, this suggests that life stage is one of the main determining factors of willingness to live in MDH; it is more likely to appeal to younger and older adults without children, and to be least attractive to families with children (e.g. Akehurst et al., 2019a, 2019b; Doberstein et al., 2016; Early et al., 2015; Howden-Chapman et al., 2017; Jenks et al., 1996; Opit et al., 2019b; Willing & Pojani, 2017)

Further, more respondents considered living in MDH as young adults without children or when downsizing for health reasons than as middle-aged adults without children, and it is at these two life stages that respondents' housing choices are typically more constrained. For young adults, these constraints are likely to be cost, and potentially the need to be near their place of study (Saville-Smith & James, 2010; Dunbar & McDermott, 2011; Opit et al., 2019b). For those downsizing for health reasons—typically older adults—the primary constraint is likely to be declining physical capabilities, but cost may also be a significant factor, particularly if MDH is being considered as an alternative to a retirement home (Bay & Lehmann, 2017; Means, 2007; Wiles et al., 2012). This suggests that most respondents may still regard MDH as inferior to standalone housing; something they would only choose to live in if they are unable to live in a standalone house, an attitude that has been noted by other New Zealand studies (Dunbar & McDermott, 2011; Bryson, 2017).

However, it is also important to note that the percentage of respondents who said they would consider living in MDH while raising children was not insignificant. This reflects the results of the recent survey of Dunedin residents' housing preferences undertaken by Akehurst et al. (2019b), which found that 17% of parents or caregivers with children would prefer to live in attached housing, up from 5% in 2007). Additionally, just over 40% of respondents under 30 considered raising children in MDH, compared to a quarter or less of respondents from older age groups. Taken together with the findings of Akehurst et al. (2019b), these results suggest that there may be significant—if not huge—demand for MDH among families with children in Dunedin, and that this demand may be growing.

Regarding the acceptance of different densities of MDH, there was a clear preference for lower-density typologies with respect to both living in and building more of it, although the preferred typology also depended on the location of MDH. In the inner city, respondents were most likely to consider living in and support building more apartment buildings, whereas attached townhouses were the most popular typology in the suburbs. Outside the inner city, 4–6 storey apartment buildings were by far the least acceptable option. These results are unsurprising, given that both international and New Zealand studies suggest that incremental increases in density are more likely to be acceptable in decentralised cities (Bryson & Allen, 2017; Doberstein et al., 2016; Dovey et al., 2017; Early et al., 2015). In particular, recent research by Early et al. (2015) and Bryson (2017) concluded that attached townhouses are the most acceptable option to most New Zealanders after standalone housing, and the findings of this research suggest this may be the case in Dunedin.

However, there were a few noteworthy findings which suggest a more compact urban form may be more acceptable to Dunedin residents than the literature leads one to expect. First, three-quarters of respondents said they would consider living in or support building more attached townhouses in the inner suburbs, and around half said the same with respect to the inner city and outer suburbs. Second, more than half of respondents said they would consider living in a 2–4 storey apartment building in the inner suburbs, and 70% supported building more of them there. Finally, more than a quarter of respondents thought 4–6 storey apartment buildings were acceptable in both respects in the inner suburbs. These findings suggest that the majority of respondents accept attached townhouses and 2–4 storey apartment buildings in the inner suburbs, reflecting Stocker's (2019) conclusion that there is demand for MDH in the inner suburbs, and indicating that building MDH that is 4 storeys or less in those areas of the city may be fairly acceptable. Furthermore, attached townhouses may be fair acceptable throughout Dunedin, and a significant minority may accept 4–6 storey apartment buildings in the inner suburbs. These findings are encouraging compared to existing research into acceptance of MDH in Dunedin and other cities in the South Island. Early et al. (2015) found that Dunedin residents were significantly more likely to be uncomfortable with increased housing density compared to those of other cities. Similarly, Bryson (2017) concluded that Cantabrians were significantly less willing to live in MDH than

Wellingtonians and Aucklanders, and it could be anticipated that Dunedin residents would be even less so. Additionally, Miller (2011) argued that New Zealand's smaller cities tend to be less aware of urban issues and consequently more opposed to changes such as increases in housing density, and the findings of Early et al. (2015) suggested that urban intensification is not seen as a pressing issue in Dunedin. However, this research, along with that of Akehurst et al. (2019b) suggests that this may be changing; there may be considerable—and growing—acceptance of MDH among Dunedin residents.

Another key finding was that younger respondents may be more accepting of MDH. As well as being more likely to consider raising children in MDH, respondents under 30 may be more accepting of higher-density MDH typologies. This is especially the case for those under 25; only 5% of respondents in this age group said they would not support building more 4–6 storey apartment buildings anywhere in Dunedin, and only 2% would not consider living in them. Furthermore, nearly 50% of respondents aged 18–24 would consider living in a 4–6 storey apartment building in the inner suburbs, compared to less than 30% of respondents in older age groups. This is also consistent with existing research, which suggests that not only are more people willing to live in MDH as young adults without children, but that young adults may be more accepting of it in general compared to previous generations (Moos, 2016; Howden-Chapman et al., 2017; Opit et al., 2019b; Saville-Smith & James, 2010). Regarding age, it is also important to note that younger respondents were more likely to consider living in MDH as young adults, while older respondents were more likely to consider living in it when downsizing for health reasons; in fact, this was the only circumstance selected by more than 40% of respondents aged 65–84. This may reflect these age groups' willingness to live in MDH, with residents aged 65–84, but it may also be that respondents were simply more likely to consider living in MDH during the life stages they were closest to.

In summary, the results suggest the following: that respondents were generally fairly accepting of MDH up to 4 storeys, as well as 4–6 storey apartment buildings in the inner city; that respondents saw MDH as more acceptable in the inner city and inner suburbs compared to the outer suburbs; that respondents were more willing to live in MDH as younger or older adults without children; that younger respondents were generally more accepting of MDH; and that acceptance of MDH among Dunedin residents may be growing.

7.2.2 The nature of acceptance

The nature of Dunedin residents' acceptance of MDH was explored with respect to both their willingness to live in MDH and their support for building more of it in Dunedin. The following discussion will explore each of these topics in turn.

The advantages and disadvantages of living in MDH

The results suggest that for most respondents, the main appeal of living in MDH is that it offers a more convenient lifestyle, or because it enables them to enjoy a more urban lifestyle. The most commonly selected advantage of living in MDH was that living closer to town is more convenient, and this was also the most widely appealing advantage; more than half of all age groups selected it, and even interviewees who were less enthusiastic about living in MDH thought this as an advantage. From the interviews, it seemed that there were two main reasons that living closer to town may be seen as more convenient: one was being able to quickly and easily access key destinations—especially work—without driving, and the other was the desire for an urban rather than a suburban lifestyle. This means having easy access not only to key destinations such as work, but to the full range of urban amenities offered by the inner city, such as cafes, parks and other recreational opportunities. In fact, several interviewees emphasised that they would only live in MDH if it was within walking distance of the CBD, especially if they lived in an apartment building; the convenience of being closer to town was the main attraction of living in MDH for them and outweighed its potential disadvantages.

This is a plausible explanation for why respondents were more likely to consider living in MDH, especially apartment buildings, in the inner city and inner suburbs compared to the outer suburbs. It is also consistent with existing research suggesting that most people are attracted to the convenience of a compact urban form, and that there is a growing interest in living a more urban lifestyle (Allen et al., 2018; Early et al., 2015; Howley, 2009; Willing & Pojani, 2019). The findings of Allen (2016) are particularly relevant; most of the Auckland residents they interviewed prioritised location convenience and lifestyle preference when choosing housing and having easy access to urban amenities was a major part of both factors.

However, while Allen (2016) found that their interviewees highly valued having easy access to urban amenities, the results of this research indicate that although most respondents see the convenience of living closer to town as an advantage of living in MDH, they would only be likely to prioritise it over a standalone house during certain life stages—specifically, as younger or older adults without children. This also appears to be true regarding having less house and garden maintenance. Interviewees often mentioned that as well as facing the constraints described in Section 7.2.1, younger adults are more likely to want a vibrant social life, to have easy access to urban amenities, and to not want to maintain a garden. They also thought that older adults are also more likely to prefer having less garden maintenance (especially as their physical capabilities decline), as well as a smaller, lower-maintenance house and easy access to key destinations. Consequently, interviewees typically felt that while living closer to other people is not an advantage generally, it could be during these life stages. Overall, although most respondents were attracted to the convenience of living closer to town in MDH, it was only during these life stages that they thought the advantages would outweigh the disadvantages.

However, the results also suggest that a significant minority of respondents may be drawn to MDH due to the lifestyle that the typology itself offers, regardless of its location. In particular, the interview results suggested that respondents who thought living closer to other people is an advantage of living in MDH may be drawn to it because they feel it can provide a greater sense of community. Interviewees who held this view were attracted to the prospect of having a more communal lifestyle, or simply valued having opportunities for neighbourly interactions, and thought that MDH provided more opportunities than traditional low-density suburbs of standalone houses. It is interesting to note that although one of the purported benefits of MDH and a more compact form is that it can encourage a greater sense of community, only a minority of respondents were likely to be drawn to it for this reason. This is not a surprising finding; Bryson (2017) suggested that most New Zealanders may prefer living in communities where they have a sense of separation from their neighbours, rather than a more communal lifestyle, an issue which is explored further below in relation to the disadvantages of living in MDH.

Another key finding is that for respondents under 25, the second most commonly selected advantage of living in MDH was that it is more affordable, and the results

suggested that the number of respondents who thought this was an advantage declined with age. As mentioned above, the housing choice of young adults is typically more constrained by cost, but in many cities in New Zealand and overseas, affordability is becoming an even more important factor, as the cost of housing continues to rise (Moos, 2016; Opit et al., 2019b; Saville-Smith & James, 2010). In New Zealand, research suggests that as the housing affordability landscape changes, young adults are adjusting their expectations; although many would prefer to live in a standalone house, this is increasingly out of reach, and they are willing to live in MDH if it allows them to own their own home, especially if it is located closer to the inner city (Howden-Chapman et al., 2017; Opit et al., 2019b; Saville-Smith & James, 2010). This explains not only why younger respondents were more likely to see MDH being more affordable as an advantage, but also why they may be more accepting of it generally. Although changing lifestyle preferences and social norms are also likely to play a role, the key factor may be that more young adults are willing—and even expect—to compromise on living in a standalone house.

However, given the growing concern over housing affordability in New Zealand cities, including Dunedin, it is interesting to note that overall, only half of respondents thought MDH being more affordable was an advantage. Both freeform survey responses and the interviews indicated that this may be due to respondents not thinking MDH is actually any more affordable. Bryson (2017) found that their survey respondents responded fairly neutrally to the statement that MDH was good value for money and concluded that New Zealanders may think all housing is poor value for money as house prices continue to increase. However, the results of this research suggested that respondents do not think that MDH—or at least Dunedin's current offerings—are good value for money, and, as is discussed further below, were sceptical that MDH would end up being any more affordable due to wider problems with New Zealand's housing market.

Finally, not quite half of respondents thought that an advantage of living in MDH is that it is a more environmentally-friendly lifestyle. This suggests that respondents may be unaware of the ways in which MDH can offer a more environmentally-friendly lifestyle—even if they think building more MDH has environmental benefits. Additionally, the interviews suggested that this was not a major factor affecting housing choice; few interviewees mentioned it, and it was not described as a major advantage. This reflects

the findings of Hocking & Kroksmark (2013), who found that the environmental consequences of lifestyle decisions were not a major factor governing New Zealanders' housing choice.

Regarding the disadvantages of living in MDH, the results suggested that most respondents' greatest concerns were privacy-related, as many other studies have found (e.g. Dunbar & McDermott, 2011; Howley, 2009; Jenks et al., 1996; Vallance et al., 2005; Willing & Pojani, 2017). The most commonly selected disadvantage was lack of privacy, and the third and fifth most commonly selected were that MDH was too noisy, and living closer to other people, respectively, all of which were selected by 50% or more of respondents. The interviews suggested that acoustic privacy was a particularly major concern, and that noise was primarily considered in relation to noise transfer between dwellings. Visual privacy was mostly discussed with respect to not feeling trapped by people; having private open space, not being forced to interact with neighbours upon entering and leaving home, and simply having a sense of space.

Interviewees also mentioned living closer to other people as a disadvantage in terms of the fear of having a neighbour who was disruptive or even compromised their safety. This was seen as something that would impact their lives more than if they were in standalone housing, as they would be living closer to their neighbours, and potentially sharing communal spaces. Bryson's (2017) findings were similar; that their respondents were more likely to agree that standalone neighbourhoods were safe places to live, and that the perception of safety decreased as density increased. Bryson points out that this may be because most standalone suburbs "seem to be designed to reduce interaction with neighbours rather than increase it," with fully-fenced houses, garages with internal access and large private gardens that face away from the street (Bryson, 2017: 23). It is therefore possible that "New Zealanders perceive safety as the ability to separate yourself from others" and "are embracing a security/privacy focused definition of safety rather than a community one" (Bryson, 2017: 24). This seems to be the sentiment of most respondents, considering the emphasis on privacy, and that many more respondents thought living closer to other people was a disadvantage than an advantage. It is worth noting, however, that the interviewees who were particularly concerned about having bad neighbours tended to be less accepting of MDH overall. It may be that they were less trusting of other people; Early et al. (2015) found that among their respondents,

those who agreed that most people can be trusted were more likely to accept a compact urban form and denser housing.

The second most commonly selected disadvantage was that MDH is not suitable for most pets, which Dunbar & McDermott (2011) found was a common perception of MDH. However, the survey results also suggested that not all respondents thought a large private garden was necessary to accommodate most pets, as comparatively fewer selected not having a large private garden as an example. This was borne out by the interviews and freeform survey responses, which indicated that the main issue was having access to open space, and a back yard in particular would make it easier to accommodate pets. In fact, a particularly interesting finding was that less than half of respondents thought that not having a large private garden was a disadvantage of living in MDH. This was noteworthy given the amount of research emphasising how much New Zealanders value their gardens, and that this is a barrier to greater acceptance of MDH (Dunbar & McDermott, 2011; Hocking & Kroksmark, 2013; Opit et al., 2019b; Vallance et al., 2005)

The interviews suggested that although most respondents may want access to open space, they do not necessarily feel the need to have a large private garden. An important point was raised by several interviewees that maintaining a garden while working full-time, especially while raising children, is a difficult task and that having access to green space without needing to spend that time could be beneficial. Furthermore, interviewees pointed out that not everyone enjoys gardening, but they usually still want to access green space, and MDH can cater to this. Those who felt a large private garden *was* essential either wanted a large space for gardening, wanted complete privacy, and/or though it was necessary for children. Most interviewees, however, thought that MDH could provide green space suitable for gardening, other recreation and/or raising children. Exactly what form of green space provision varied between interviewees—some preferred having a private back yard in combination with communal and/or nearby public green space, while others were satisfied with communal green space.

In this vein, although 41% of survey respondents thought that a disadvantage of living in MDH was that it is unsuitable for children, most interviewees thought that it could be suitable for raising children. Some even pointed out that having communal green space—if it was well-designed—could provide children with a larger and more interesting space to play in, and other children to play with. These results suggested that

one of the main concerns regarding the suitability of MDH for children was access to green space, which is consistent with existing research (Carroll et al., 2015; Dunbar & McDermott, 2011; Witten et al., 2011). However, a few interviewees also raised the issue of safety in communal spaces, and research does suggest that this is likely to be a major concern for parents (Carroll et al., 2015; Dunbar & McDermott, 2011; Easthope and Tice, 2011;). Additionally, a few interviewees mentioned that lack of floor space could be a problem regarding raising children. Relatively few respondents selected this as a disadvantage overall, potentially indicating that respondents were aware that MDH comes in a range of sizes. However, the interviews suggest that, as Bryson (2017) also found, there may still be a need to increase residents' awareness of the range of dwelling sizes available within the MDH umbrella, to broaden its appeal beyond small households.

While the survey results suggested that respondents may not have been aware that many of the above disadvantages are influenced by the design and construction quality of MDH, the interviews suggested the opposite. Almost all the interviewees thought that the above disadvantages, as well as lack of natural light, could be mitigated by design to the extent that MDH could provide a good quality of life. The two who often thought that these disadvantages could not be sufficiently mitigated were the two who, due to their lifestyle preferences, were most opposed to living in MDH, and preferred to live in a standalone suburban home. However, the interviewees also expressed the concern that although MDH could be well-designed, it was often not in practice due to developers seeking to maximise profits, so the reality of living in MDH would in fact be having a lack of privacy, light, floor space, green space and so on. Most interviewees mentioned examples of MDH they knew of or had lived in where these disadvantages were present, and indeed, it is clear that ensuring good design of MDH remains a real challenge for New Zealand (Allen & Bryson, 2018; Dunbar & McDermott, 2011; Witten et al., 2011).

A non-design related concern that was not addressed by the survey but emerged from the interviews: reduced independence. Several interviewees mentioned that a deterrent of living in MDH for them was the complication of having to deal with a body corporate, or simply having to consider the opinions of their neighbours more when making decisions such as house painting or gardening. Recent research has indeed highlighted that dealing with body corporate is a challenge for residents of MDH in New Zealand, with respect to the maintenance of MDH (Nuth, 2020).

Finally, it is interesting to note that although the results suggest most respondents still see MDH as generally inferior to standalone housing, they do not typically hold the belief that only standalone housing can provide a good quality of life, even if they do not wish to live in MDH themselves. In contrast, interviewees all mentioned that housing preferences are informed by previous experience and thought that if New Zealanders had grown up living in and with MDH they would be more accepting of it. This is a well-documented phenomenon (e.g. (Bryson, 2017; Doberstein et al., 2016; Opit et al., 2019; Vallance et al., 2005; Willing & Pojani, 2017), but what is noteworthy about this finding is that the disbelief that people can live in higher-density housing expressed by participants in earlier New Zealand studies (e.g. Dixon & Dupuis, 2003; Vallance et al., 2005) was not present among the interviewees, and was likely uncommon among respondents.

The advantages and disadvantages of building more MDH

A major finding in relation to why residents support building more MDH was that the vast majority of respondents see creating more housing options as an advantage; this was selected by almost 90% of respondents, and by more than 80% of respondents from all age groups, making it both the most commonly selected and the most widely appealing advantage by a sizeable margin. Interviewees often expressed the sentiment that providing housing choice is important, and that even if they would prefer not to live in MDH, the option should be there for those who do. The interviews also suggested that a particularly common concern was that Dunedin's older residents have sufficient housing options, so that they can "age in place" if they wish to. An interviewee who works in health and disability needs assessment also highlighted that Dunedin's current housing stock is not providing the city's disabled residents with adequate housing choice, especially those with reduced physical mobility, who are sometimes forced to trade-off the accessibility of their home with having access to the rest of the city; living far away from town in order to have a suitable home, despite being unable to drive. She thought that building more MDH was an opportunity to ensure there was more housing purpose-built for disabled residents closer to the city.

Related to housing choice, over half of survey respondents thought that an advantage of building more MDH was that it is more affordable, although once again more younger

respondents selected this option, indicating that affordability is a greater concern for them. Together with comments from survey respondents and interviews it seems that building more MDH is seen as something that could help address Dunedin's growing affordability crisis by increasing the supply of affordable housing. Nevertheless, as was mentioned previously, a theme among the freeform survey responses and interviewees was that simply allowing more MDH to be built will not necessarily improve housing affordability, due to wider problems in the housing market. Again, this is likely why no more than 60% of respondents selected this was an advantage. Some comments from survey respondents and interviewees emphasised that improving Dunedin's housing affordability was, in their opinion, one of the key advantages of building more of it, suggesting that ensuring MDH is affordable is important not only from an equity perspective, but for it to be acceptable to Dunedin residents.

Another key finding was that most respondents thought that there were environmental benefits to building more MDH. The second and third most commonly selected advantages, selected by just over 60% of respondents, building more MDH will help to protect greenfield land around Dunedin and reduce carbon emissions from car travel, respectively. Half of respondents also thought that MDH was more energy efficient. The interviews suggested, however, that these were not major concerns to all respondents, even if they selected them in the survey. For a few interviewees, environmental benefits, particularly minimising urban sprawl and reducing carbon emissions were the key reasons for building more MDH and having a more compact urban form; in fact, for these reasons, they regarded taking this approach to housing provision as a necessity. Most did not put same emphasis on it, however, and were either less concerned about urban sprawl or were unsure about the extent to which it was a problem for Dunedin. Willing & Pojani (2019) found similar results from interviewing residents of Brisbane, Australia, who tended to agree that urban sprawl leads to a loss of productive land, but rarely saw the continued dominance of low-density standalone housing as a major problem. Furthermore, nearly half of respondents did *not* select these benefits, suggesting that while Dunedin residents may be more aware of urban issues than the findings of Miller (2011) or Early et al. (2015) indicate, there is still considerable scope for increasing awareness of them. However, it is interesting to note that even interviewees less concerned about urban sprawl from an environmental perspective, tended to be

supportive of having a more compact urban form and reduced car dependence from a quality of life perspective.

The results indicate that the above advantages make up the main reasons respondents support building more MDH: it has environmental benefits and will help to ensure that all Dunedin residents have access to affordable housing that provides them with a good quality of life according to their needs and preferences. This is consistent with the research of Smith and Billig (2012) and Doberstein et al. (2016), who found that residents typically support the public good benefits of building higher-density housing, such as protection of productive and recreational land, reduced traffic congestion, and reduced carbon emissions. The respondents in this research, however, seem to be more focused on public good in terms of social benefits, which may be due to concern about Dunedin's declining housing affordability and accommodating its ageing population.

Nevertheless, respondents did identify disadvantages of building more MDH. First, it is interesting to note that less than a fifth of respondents thought that building more MDH would reduce Dunedin's green space, and nearly half thought that an advantage of building more MDH is that it will actually increase the amount of green space in the city. Vallance et al. (2005), on the other hand, found that a key concern about urban intensification was that it would lead to a loss of green space in the city, but this was evidently not a concern for the majority of respondents in this study. However, respondents were concerned that MDH would reduce the amenity of Dunedin's neighbourhoods. Although relatively few respondents thought that MDH looking ugly and/or lacking character was a concern in relation to living in it, it was the most commonly selected disadvantage in relation to building more, followed by MDH often being poorly designed. This has long been recognised as a concern among New Zealanders (e.g. Bryson, 2017; Dupuis & Dixon, 2003; Early et al., 2015; Vallance et al., 2005). Importantly, however, the interviews suggested that most respondents do not see this as an inevitable consequence of building more MDH, and often believe that MDH can be aesthetically pleasing and contribute to neighbourhood character. Again, however, they fear that as this is not a priority for developers, and that MDH is likely to be ugly and/or lack character in reality.

One of the specific issues interviewees mentioned in terms of character was the consequences of MDH for Dunedin's built heritage. In line with Early et al. (2015),

interviews typically favoured protecting heritage buildings, and did not want to see them demolished to allow more MDH to be built. Although they thought it was important that MDH respond to the neighbourhood context, they were generally less concerned about MDH looking the same or similar to surrounding heritage buildings. However, interviewees also thought that Dunedin residents are architecturally conservative, and that any MDH that was too different was likely to be opposed, a view that was also expressed by the participants in Early et al.'s (2015) study. Several interviewees also highlighted the tension between preserving heritage buildings and sustainable housing provision, and one even expressed the view that not all Dunedin's heritage buildings are historically valuable and thought that any character lost by demolishing some of Dunedin's older houses would be compensated for by the benefits of replacing poor quality housing with good quality housing while avoiding urban expansion. Additionally, two of the younger interviewees thought that it was important to recognise that heritage protection focused on the protection of colonial buildings, which is only one part of Dunedin's heritage. Evidently, even among the thirteen residents interviewed there were a variety of views. What is clear, however, is that Wellington City Council's approach of removing heritage protection from certain suburbs, allowing older houses to be demolished and replaced with MDH, would probably be at least as contentious in Dunedin as it is in Wellington (Lock, 2020).

One of the other main concerns was that not only would poor quality housing reduce the amenity of Dunedin's neighbourhoods, but it could result in "slums"; 30% of respondents selected this disadvantage specifically, and "it is often poorly constructed" was also selected by 30%. This has long been recognised as a concern held by New Zealanders in relation to MDH (e.g. Dixon & Dupuis, 2003; Dunbar & McDermott, 2011; Opit et al., 2020). Some studies have found that this concern is held due to either valid concerns about housing quality or ideological opposition to higher-density housing due to the belief it cannot provide a good quality of life (e.g. Dixon & Dupuis, 2003; Opit et al., 2020). In this study, however, the interviews suggested that the respondents who thought a potential disadvantage of building more is that it can end up as slums of poor-quality housing fell into two different categories. Some interviewees were concerned about this from an equity perspective, believing it would lead to the ghettoisation of low SES or other disadvantage residents. As the literature review discussed, this is something

that has occurred around the world, from the 20th century tower blocks of the UK and the US to the more recent proliferation of poor-quality high-rise apartment buildings in Auckland. Two interviewees, however, were concerned about the impact of slums on neighbourhood property values, and about the kinds of people who might live in them. This is another well-documented attitude in New Zealand. Vallance et al. (2005), for instance, noted that residents were concerned about their property values declining as MDH was built in their neighbourhood and Dunbar & McDermott (2011) pointed out that New Zealanders still associate higher-density housing with social housing failures, and consequences such as higher crime rates. Additionally, numerous studies have found that opposition to MDH due to concern about who its future residents might be is "primarily based on prejudice and stereotypes of the presumed occupants of such housing, rather than first-hand experiences" (Opit et al., 2020: 12).

Finally, although it was not addressed by the survey, a concern that emerged from the interviews was that MDH would not be adequately planned for regarding the provision of sufficient infrastructure, especially regarding transport. Interviewees mentioned that to avoid traffic congestion and parking problems, there needed to be sufficient parking space and/or adequate public transport and emphasised that the current public transport system is inadequate. Several also expressed a lack of faith in the ability of councils to effectively plan for these needs. As Opit et al. (2020) point out, this is a reasonable concern, given that urban intensification in New Zealand has typically lacked coordination, and increases in housing density have not been accompanied by access to adequate public transport. The consequences have been increased traffic congestion, insufficient parking, and reduced pedestrian and cyclist safety.

Overall, the results suggest that there is broad support among respondents for building more MDH in Dunedin, primarily out of a desire to address Dunedin's housing supply and affordability challenges, and well as environmental concerns. They also support the findings of studies highlighting that while some NIMBY attitudes are the result of prejudice, typically respondents' concerns about building more MDH are based on legitimate fears that proposed developments will be designed and constructed poorly (Whittemore & BenDor, 2019; Woodcock et al., 2012).

7.3 Encouraging acceptance of MDH

As well as understanding how acceptable MDH is to Dunedin residents, this research was interested in how greater acceptance of it can be encouraged, and particularly whether the design of MDH could play a role in this. To this end, the fourth research sub-question asked whether well-designed MDH is more acceptable to Dunedin residents, and the fifth asked specifically whether presenting Dunedin residents with examples of well-designed MDH encourages greater acceptance of it. This section will begin by discussing the extent to which design influenced participants' acceptance of MDH and some of the ex key design features that emerged as being particularly important to them. Next, it will explore the extent to which presenting participants with examples of well-designed MDH encouraged greater acceptance of it, as well as interviewees' comments on the value of well-designed examples. Finally, it will discuss some themes that emerged from the interviews as key considerations when seeking to engage with communities on the issue of MDH.

7.3.1 The influence of design

Design influenced the acceptability of MDH for most respondents. As the above findings indicate, the interviews suggested that respondents may typically have seen many of the advantages and disadvantages of living in and building more MDH as design dependent. This is supported by the majority of survey respondents saying that design almost completely influenced whether they would be willing to live in or support building more MDH. Between the survey and interview results, a number of features emerged as being particularly influential.

Unsurprisingly, given how many respondents thought that an advantage of living in MDH was that living closer to town is more convenient, the interviews suggested that the location of MDH was an important determinant of whether most respondents would live in it. These results indicated that MDH was likely to be more attractive if it was in or near the inner city, or further out but in or near a centre and adequately serviced by public transport. Related to this, interviewees emphasised the importance of providing adequate public transport, and car and bike parking options, both for the convenience of those living in MDH, and to ensure that it did not increase traffic congestion and lack

of parking space. This reflects Willing & Pojani's (2017) findings which highlight that residents are often very aware of potential negative impacts of increasing housing density, such as traffic congestion, and those of New Zealand studies highlighting the importance of proximity to public transport and urban amenities for residents to be satisfied with living in MDH (Allen et al., 2018; Dunbar & McDermott, 2011).

Lack of privacy was identified as one of the main disadvantages of living in MDH, and the interviewees suggested that MDH would be more acceptable if it had good acoustic privacy so that residents could not hear their neighbours regular activities, a sense of space—looking out onto trees, for instance, rather than directly onto another dwelling—and private open space. For some interviewees, it was important that this was a back yard, while others were content with having spaces such as a roof garden, balcony or patio. Interviewees who were more concerned with privacy also favoured having a private entrance with some transitional space, so they could come and go without feeling the need to interact with their neighbours.

Access to open space more generally was also a particularly important aspect of design. Some interviewees were content with having communal open space, while others wanted a combination of a private back yard and communal and/or nearby public open space, depending on their lifestyle preferences—for instance, whether they wanted a larger area of private open space than a balcony, whether they wanted their own space for gardening, whether they only wanted open space to provide a sense of connection with nature. It was mentioned, however, that a mix of private and communal and/or public open space was likely to have the widest appeal, due to New Zealanders' desire for privacy.

Access to open space was also key to whether interviewees thought MDH would be suitable for children and pets, and for both, having a mixture of private and public open space was typically seen as more appealing. Regarding communal open space, interviewees highlighted the importance of its design; that it should not be simply a lawn and a playground but should have interesting landscaping and enable children to play creatively, such as by climbing trees.

Additionally, having good quality construction overall, especially with respect to energy efficiency was important to interviewees. The results indicated that visual appeal was

generally less of a concern for respondents' when it came to living in MDH, but was a major concern regarding building more MDH due to its influence on neighbourhood amenity. However, interviewees frequently mentioned the visual appeal of the examples with respect to whether they would live in them and want to see them in Dunedin. Their main concerns were that MDH did not look monotonous or austere, that there was differentiation between individual dwellings and that the scale of MDH was not out of place in its neighbourhood. In fact, although there were a few exceptions, interviewees generally found MDH more appealing if it was lower than 4 storeys. This incremental increase in density was seen as less likely to detract from existing neighbourhood character, and was less confronting overall. As Allen also found, it seems most respondents "were not anti-density or anti-intensification but, rather, were anti-high rise" (Allen, 2016: 164).

These findings support existing research undertaken in New Zealand (e.g. Dunbar & McDermott, 2011) and elsewhere (e.g. Cooper-Marcus & Sarkissian, 1986; Beatley, 2000) that residents are typically more willing to live in MDH—including those who are less likely to consider it, such as parents or caregivers with children—if it is able to provide the best aspects of a standalone suburban home, particularly a sense of privacy and access to open space.

7.3.2 The influence of examples of well-designed MDH

Studies often focus on encouraging community acceptance by emphasising the public good aspects of increasing housing density (e.g. Doberstein et al., 2016; Opit et al., 2020; Smith & Billig, 2012) or on the benefits of living in higher-density housing, such as shorter commutes and greater sense of community (e.g. Bryson, 2017; Howley, 2009) The findings of this research support these conclusions, but also suggest that presenting residents with examples of well-designed MDH can also encourage community acceptance, by both highlighting the benefits of living in MDH and counteracting residents' concerns about living in or building more of it.

The interviewees did think that Dunedin residents generally lacked a clear understanding of what MDH was and had negative preconceptions about it, due to a lack of experience with MDH generally, and having seen more poor examples than good examples. This was

reflected in what emerged as the main disadvantages of living in and building more MDH; lack of privacy—especially acoustic privacy—lack of natural light, lack of suitability for children and pets—primarily due to lack of access to open space—visually unappealing buildings that reduce neighbourhood amenity and the likelihood of MDH becoming slums of poor quality housing. While all interviewees thought that to an extent, acceptance of MDH is about adapting to a different way of life, and that living in or with MDH is not something most New Zealanders are used to, they also typically thought that exposure to examples of well-designed MDH could encourage acceptance of it.

Indeed, the research findings suggest this is the case; more than 1 in 10 respondents who initially said they would not consider living in MDH while raising children or as middle-aged adults without children, changed their minds after being presented with examples of well-designed MDH. This proportion was 1 in 4 for respondents aged 18–24, suggesting that younger respondents are particularly accepting of MDH, provided it is well-designed. However, the results also highlighted the importance of ensuring that examples actually address residents' concerns about MDH, as evidently some of the examples chosen in this study did not. In particular, the interview results suggest that respondents were less inclined to support building more apartment buildings in Dunedin if they were similar to the examples shown due to the scale of the examples. They indicated that respondents may have been more accepting of apartment buildings were the examples only 2–3-storeys tall. Similarly, the interviews suggested that respondents were more inclined to support building attached townhouses similar to the examples shown in the inner city and inner suburbs, and less inclined to support building them in the outer suburbs due to several of the examples being taller, and overall larger-scale developments.

These findings reflect those of Woodcock et al. (2012), one of the few studies investigating the value of presenting residents with images showing potential outcomes of increasing density. They found that showing images that addressed some of the key design concerns of participants—height, setback and site coverage—had a large impact on acceptability. Conversely, Witten et al. (2011) found that presenting residents with images showing the potential outcomes of increasing housing density in Tauranga suburbs did not encourage greater acceptance of urban intensification. However, as was noted in the literature review, this was likely a product of the images exacerbating rather

than alleviating residents' design-related concerns about MDH, and the results of this study further support this conclusion.

It is also important to highlight that interviewees typically thought that Dunedin residents would become more accepting of MDH as more well-designed MDH was built. In particular, Toiora High St Cohousing was frequently mentioned as an example of well-designed MDH, and interviewees thought seeing this and similar developments could encourage greater acceptance.

7.3.3 Community engagement

The question of how to best engage and communicate with communities is not the main focus of this research, and it is itself an important issue. However, several themes emerged from the interviews as key considerations when engaging with Dunedin residents on issues of urban form and MDH, and particularly when seeking to use well-designed examples of MDH to encourage greater acceptance of it.

One was the importance of clearly defining and illustrating what MDH is. Interviewees typically expressed the sentiment that while the term "medium-density housing" is fairly intuitive—insofar as it suggests a higher density than the standalone housing of traditional suburbs, and a lower density than high-rise apartment buildings—its exact meaning is not obvious. They thought that this was partly due to the lack of MDH in Dunedin currently, and that it would become less of a problem as more is built and residents have more points of reference, a conclusion that Bryson (2017) also came to.

It was also clear that as well as considering which examples are likely to be seen as appropriate in Dunedin, it can be valuable to situate them in Dunedin, as researchers such as Witten et al. (2011) and Woodcock et al. (2012) have done—although with differing degrees of success, as mentioned above. A number of interviewees remarked that although they liked the examples, they were unsure where they would go in Dunedin, suggesting that providing an image showing where an example might go in Dunedin could provide a better understanding of how they would work in a Dunedin context.

On a similar note, the interviews highlighted the importance of showing what examples of MDH are actually like to live in and live with. As Woodcock et al. (2012) also found,

interviewees expressed cynicism about architects' drawings showing an idealised vision of developments rather than what they are actually like, and also mentioned that having photos taken in fine weather always makes developments look more appealing. Similarly, several interviewees expressed interest in seeing photos of developments after several years rather than when they were new, and about additional information to do with what living there was actually like for the residents. This reflects the conclusions of Bryson (2017), who suggested that New Zealanders are likely to become more accepting to MDH as they become more informed about the reality of living in it—provided it is well-designed.

7.4 Research implications

The findings of this research have implications for the approach taken to housing provision specifically in Dunedin, but also contribute to the wider body of research on the acceptance of the compact city.

First, as Chapter 4 outlined, Dunedin is facing a growing housing crisis on multiple fronts. Its overall housing capacity is insufficient to accommodate projected population growth for the next five years and beyond. There is also insufficient capacity for MDH, especially in the inner suburbs, to accommodate the needs and preferences of its ageing population and the growing number of one and two person households. The city is also experiencing a steep decline in housing affordability, and much of its existing housing stock is poor in quality. As a consequence, the question of how to provide sufficient housing to accommodate Dunedin's growing and changing population while improving the affordability and quality of housing is pressing. However, as Chapter 2 discussed, the environmental consequences of decentralised urban form mean it is no longer tenable to accommodate population growth primarily through low-density urban expansion; taking a compact city approach to housing provision is necessary to achieve urban sustainability. The ORC and DCC have recognised this, and the DCC has proposed urban intensification in the form of MDH as part of the solution to Dunedin's housing challenges (Stocker, 2019). However, Chapter 4 concluded that the planning context around urban form and housing provision in Dunedin did not ensure that a compact city approach to housing provision would be taken; it did not enable sufficient housing

densities or ensure that MDH would be well designed and adequately supported by infrastructure. Furthermore, the existing body of research on community acceptance of higher-density housing in Dunedin and other small, decentralised cities explored in Chapter 2 suggested that building more MDH in the suburbs, or even apartment buildings taller than 2 storeys would not be acceptable to the city's residents.

In contrast to this expectation, a key finding of this research is that most Dunedin residents may accept a compact city approach to housing provision. The majority of residents may accept apartment buildings up to 6 storeys in the inner city and attached townhouses and 2–4 storey apartment buildings in the inner suburbs. Furthermore, around half of residents may accept attached townhouses throughout the city. Suburban apartment buildings are likely to be most acceptable in centres, which already have greater levels of activity, higher building densities and better public transport infrastructure. A transit-oriented development approach is therefore likely to inherently "make sense" to the majority of residents. It would also align with the preference that most respondents had for living in MDH in the inner city or inner suburbs. This finding, along with the tendency for younger adults to be more accepting of MDH, and for MDH to be seen as most attractive to younger and older adults align with the findings of Akehurst et al. (2019a; 2019b) and Stocker (2019) as well as studies on willingness to live in MDH undertaken elsewhere in New Zealand and overseas.

However, another key finding of this research was that there a sizeable percentage of Dunedin families with children who would consider living in MDH, and as Akehurst et al. (2019b) found, it appears this percentage is growing. This may be partially due to Dunedin's declining housing affordability, as the experiences of cities such as Sydney (Easthope & Tice, 2011) and Auckland (Witten et al., 2011) indicate that if MDH is more affordable than standalone housing, low SES families with children are particularly likely to consider living in it. However, this may also be influenced by residents' desire for a more convenient lifestyle, and consequently, this research also found that more residents may be willing to live in MDH while raising children if it is of a suitable size and provides easy access to well-designed open space.

An important implication of this research is therefore that the demand for MDH from families with children should not be overlooked. This means that MDH should not be designed solely for small, childless households, and that it needs to be supported by

adequate physical, social and green infrastructure to ensure that families have access to convenient transport options, facilities such as schools and amenities such as parks. At the same time, however, many of the design features that make MDH more suitable for children (according to research and the views of the participants in this research) also make it more appealing to residents in general, and more likely to provide them with a good quality of life. Beyond the Dunedin context, this highlights the need to investigate who prospective MDH residents are and what they want, rather than relying on the assumption of developers. As previous research has found (e.g. Easthope & Tice, 2011; Tucker & Ryland, 2014; Witten et al., 2011), conventional wisdom is that MDH will appeal to students, "young professionals" and "empty nesters," leading to a self-fulfilling prophecy where MDH is unsuitable for the families with children who choose to live in it because it is not designed to accommodate their needs and preferences.

Another important implication for both housing provision in Dunedin and research into the acceptability of the compact city generally, is that well-designed MDH is more acceptable. Regarding Dunedin, this provides an opportunity: most residents are likely to accept well-designed MDH, and acceptance may be encouraged by presenting residents with examples of well-designed MDH. This can allay residents' design-related concerns and increase awareness that there are many possibilities when it comes to designing MDH. However, this finding also suggests that the construction of poorly-designed MDH may serve to strengthen opposition to it among Dunedin residents on the basis that it will have poor outcomes while failing to deliver on promised benefits. Furthermore, reflecting the findings of Witten et al. (2011) and Woodcock et al. (2012), this research suggests that careful consideration needs to be given to what examples of higher-density housing show and how they are presented. First, it is essential that the examples effectively address residents' concerns and have features that appeal to them. This requires prior investigation into residents' concerns and what design features they think are important. In this research, most of the apartment buildings were larger in scale than participants thought was appropriate for Dunedin, and therefore did not address this concern. Second, examples should be situated in the local context to facilitate understanding of what the impacts of increasing housing density would be. Third, examples should provide a full and realistic picture of what living in and with higher-density housing would be like.

On a related note, this research highlights the value of engaging with residents on issues of urban form and housing density. For instance, Opit et al. (2020) note, there has been growing criticism of oversimplifying opposition to higher-density housing as NIMBYism, and they found in Auckland that although prejudice against the imagined residents of MDH and nostalgia for traditional standalone suburbs remained, acceptance of MDH was considerable and growing. Furthermore, Woodcock et al. (2012) found rather than being self-interested and prejudiced, that Melbourne residents had specific design concerns and responded differently to different design scenarios. Similarly, this research found that there is likely to be considerable and growing acceptance of MDH among Dunedin residents, that concern about the execution of urban intensification is a major contributor to opposition, and that presenting residents with examples of well-designed MDH that addresses these concerns encourages acceptance of it. It therefore aligns with growing number of studies suggesting that the arguments against the compact city based on a lack of community acceptance are, in many cases, no longer valid.

For New Zealand specifically, it is important to acknowledge that there is undoubtedly truth to Miller's (2011) argument that the residents of New Zealand's smaller cities are often less aware of and concerned about issues such as the sustainability of urban form. Moreover, the findings of Early et al. (2015) that Dunedin residents are less accepting of compact urban form than residents of other New Zealand cities. However, residents of small, decentralised cities may be fairly accepting of higher-density housing if it is done well, especially as they face worsening housing crises, and the profile of environmental crises continues to grow. These findings are also relevant to small, decentralised cities in other countries such as Australia, Canada and the United States, which have historically faced the same challenges of acceptance regarding the compact city as New Zealand. Studies already suggested that emphasising the public good of compact urban form could encourage acceptance of higher-density housing in these cities (e.g. Doberstein et al., 2016; Smith & Billig, 2012). However, this research suggests that there is also value in engaging with residents on the design of higher-density housing, and encouraging acceptance of it by presenting them with well-designed examples.

7.5 Limitations and future research possibilities

There are several key limitations to this research that lead into possibilities for future research on acceptance of MDH in Dunedin and elsewhere. The first relates to the research methodology. This research sought to obtain a general sense of the nature and extent of Dunedin residents' acceptance of MDH, without oversimplifying their range of views and losing important nuances. The mixed-methods approach taken fulfilled this goal, particularly as the survey data were fairly representative of Dunedin's population regarding several key metrics, particularly age. However, it is important to note that the research findings only provide an initial indication of Dunedin residents' acceptance of MDH and how greater acceptance can be encouraged. This is valuable as it indicates that MDH may not be as unacceptable in Dunedin as the existing body of research suggests, and shows there is value in researching this topic further. Nevertheless, it is necessary to acknowledge that no *statistical* inferences can be drawn from this research; it is not possible to say how likely the findings are to be representative of Dunedin residents. Providing this level of statistical rigour was beyond the scope of the current research, but it would be valuable for similar research to be undertaken to address this remaining knowledge gap, particularly with respect to understanding how great an influence well-designed examples of MDH have on Dunedin residents' acceptance of it.

Second, although the survey sample was reasonably representative with respect to age, low SES residents were underrepresented. It is important that the views of these residents are considered, especially if MDH is being built in part to increase Dunedin's supply of affordable housing, and if future social housing is likely to be MDH (Birch & Wachter, 2008; Jenks & Jones, 2010). Additionally, this research did not investigate acceptance of MDH among Māori residents. This is evidently a major consideration with regard to planning for housing in Dunedin, but time constraints meant this was beyond the scope of this study. There is therefore a need to ensure that the views of these groups are well-represented in future research into acceptance of compact urban form and MDH in Dunedin, and potentially even for research focusing specifically on their views.

The final key limitation of this research is that it may underestimate the extent to which well-designed examples of MDH, especially apartment buildings, encourage community acceptance. As mentioned previously, the interviews suggested that had more of the

examples of apartment buildings been smaller in scale, with a lower height and reduced bulk, they likely would have been more acceptable to respondents. Similarly, if more of the examples of attached townhouses had been smaller in scale, they likely would have been more acceptable in the outer suburbs. If further research on this topic is undertaken in Dunedin, it would be useful to use smaller scale examples to see whether this makes them more acceptable.

7.6 Recommendations

From the research findings, five key recommendations have emerged in relation to taking a compact city approach to housing provision in Dunedin and encouraging acceptance of MDH:

1. The DCC should not rule out building more MDH, especially in the inner suburbs, as part of its solution to Dunedin's housing challenges, on the basis of it not being unacceptable to residents. There may be considerable acceptable of MDH among Dunedin residents—provided it is done well—and this can be encouraged further.
2. In line with what is likely to be most acceptable to Dunedin residents, the DCC should focus its urban intensification on apartment buildings up to 6 storeys in the inner city, 2–4-storey apartment buildings in or near centres in the inner suburbs, and attached townhouses in the suburbs—especially the inner suburbs.
3. A strong emphasis should be placed on ensuring MDH is well-designed, especially considering the following factors:
    a. The accessibility of MDH; it should be located in or near the inner city and/or supported by adequate public transport, and should also provide car and bike parking spaces as appropriate.
    b. The scale of development in relation to its surrounds.
    c. Building on the human scale with differentiation between dwellings to avoid a sense of monotony, and landscaping to soften buildings and help them fit into their neighbourhood.
    d. Adequate privacy, particularly regarding acoustic privacy, providing private open space, ensuring that occupants can enjoy a sense of space (e.g. through providing a view out onto greenery).

e. Easy access to well-designed open space (private and/or communal) and provision of greenery.
f. Universal design: regarding mobility needs, but also to ensure that MDH can accommodate the needs of families with children, as most of what makes MDH more child-friendly (e.g. easy access to open space, safety from cars—improves the quality of life of all occupants.

4. Seek to engage with residents and improve their understanding of MDH through adopting a clear definition of the term and illustrating it, and to develop a better understanding about what residents what from MDH and what they are concerned about.
5. Ensure that if presenting residents with examples of MDH to encourage greater acceptance, the following factors are considered to ensure this is effective:
    a. The chosen examples contain features that appeal to most residents and counter rather than exacerbate their concerns; for instance, ensure the scale of the development is not too large, or show how it could be scaled down to Dunedin.
    b. Situate examples in the Dunedin context, by using existing Dunedin examples, visually depicting how they would fit on a given site, or simply suggesting potential sites.
    c. Ensure that the depictions of MDH are realistic and there is adequate background information to give residents a full picture of what living in or with it is like. For instance, highlight what works well in an example, but also any problems and how they could be solves.
    d. Make the most of good local examples. For instance, when Toiora High St Cohousing has been completed, this could be used as an exemplar of MDH practice in Dunedin—assuming it is successful. e.g. High St. Assuming it goes well, use as an exemplar.

7.7 Concluding remarks

There is a strong argument for taking a compact city approach to housing provision in Dunedin. Doing so could help address the city's housing challenges by increasing its overall housing capacity, its capacity for smaller and centrally located dwellings that meet

the needs and preferences of the city's changing demographics, and potentially improve the quality of the city's housing stock and housing affordability. Addressing these challenges would move Dunedin towards becoming sustainable from a social standpoint, where all its residents thrive. However, a compact city approach is even more necessary from an environmental standpoint; it is the only way to address Dunedin's housing challenges while reducing the rate of land consumption and supporting a reduction in transport-based carbon emissions. Furthermore, taking this approach to housing provision could have other benefits including high environmental performance housing, enhanced business vitality in the inner city and other centres, a greater sense of community for residents and greater housing choice for the city's disabled residents. Taking these steps will help Dunedin move towards becoming a sustainable city: one that thrives within its natural habitat while respecting the wellbeing of all people and the planet.

However, while in places with a long history of compact urban form—such as many European cities—there is often a fundamental acceptance of higher-density housing, which is not the case in decentralised cities. Opposition to higher-density has been a particularly great challenge in smaller cities that have not faced major housing challenges in recent history. Consequently, given the rationale for taking a compact city approach to housing in Dunedin, this study investigated the question: what is the nature and extent of Dunedin residents' acceptance of MDH, and does the design of MDH influence its acceptability? Quantitative and qualitative data were on Dunedin residents' acceptance of MDH were collected from 313 completed responses to an online questionnaire survey and semi-structured interviews with thirteen residents.

The research revealed that, contrary to expectations, there may already be considerable acceptance of MDH among Dunedin residents, provided it is well-designed and adequately supported by infrastructure. Additionally, younger residents, although very aware of the potential disadvantages of living in and building more MDH, may still be more accepting of it, suggesting that acceptance will only continue to grow. Nevertheless, it was clear that there is still scope for encouraging acceptance of MDH in Dunedin. Despite most residents being willing to live in MDH in some circumstance and supporting building more of it, the findings indicate that they still see it as inferior to standalone housing. For some, this is due to strong lifestyle preferences, such as the wish

to have perfect privacy. However, this research suggests that many residents' may not be aware of the variety of options when it comes to MDH, especially regarding floor space and how adequate space and greenery can be provided. Furthermore, there appears to be a lack of faith that MDH will be designed and constructed well. Although there was only a small number of interviewees, it is interesting to note that they all thought Dunedin residents' often have negative preconceptions about MDH due to having limited experience living in or with it. It therefore made logical sense that this research found presenting residents with examples of well-designed MDH can encourage greater acceptance of it. It also highlighted the value of engaging with residents on issues of urban form and housing density: to encourage acceptance of MDH, it is first necessary to understand what residents want from it and what their concerns about it are.

To conclude, it is worth emphasising that taking a compact city approach to housing is likely to be unavoidable for most cities, and the imperative to achieve sustainability grows, However, for Dunedin, and other small, decentralised cities in New Zealand and around the world, this presents an opportunity. In these cities, it is possible to take a compact city approach to housing provision without building high-rise apartment buildings. Instead, these cities can build more MDH, and in particular, attached townhouses and 2–4 storey apartment buildings with private yards and/or communal open space. This approach will provide a better quality of life for a wider range of people than building more high-rise apartment buildings and is also more acceptable to residents.

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Appendix 1: Online questionnaire survey

Compact city?

How should Dunedin house its growing population?

Thank you for showing an interest in this project! This survey is being undertaken as part of my University of Otago Master of Planning thesis, which investigates the **nature and extent of support for medium-density housing (MDH) in Dunedin**.

Dunedin is facing significant housing challenges: its population is growing faster than anticipated, and a shortfall in housing supply is expected in the next few years. Insufficient housing supply is a problem in itself, and also leads to rising house prices. Building more MDH (**attached townhouses and low-rise apartments**) is one way to increase Dunedin's housing supply. Is this something you want? Do you have any concerns about increasing Dunedin's housing density? What is most important to you when it comes to housing?

If you **currently live in the Dunedin area and are 18 or older** I want to hear your views, whether you support building more MDH, oppose it, or have never even thought about it. The survey will take you around 15 minutes to complete, and you can do it all at once or exit and come back to it later. You will be asked to provide some personal information, such as your age, occupation and the suburb you live in on. However, your responses will be completely anonymous; you will not need to provide your name or exact address.

By completing the survey, you give your permission for your responses to be used in this research. If you do not complete the survey, your responses will be not be used. The results of this research may be published, and the final thesis will be publicly available on the Otago University Archive website for use by other researchers. It will also be sent to the Dunedin City Council, who have expressed an interest in this research. If you wish, the thesis can be sent to you via email. If you provide your email for this purpose, it will remain confidential and will be deleted after the thesis has been sent to you.

If you have any questions about this project, either now or in the future, please feel free to contact:

Vyvienne Evans
School of Geography
Phone: 022 630 8609
Email: evavy207@student.otago.ac.nz

How this survey works

You can move back and forth through this survey using the table of contents, and the 'back' and 'next' arrows at the bottom of each page. You can open and close the table of contents (shown below) by clicking the icon at its top left. However, **please don't change your answers after you finish a section**.

Housing definitions

Three broad dwelling types are discussed in this survey. The photos below show examples from around Dunedin.

Standalone house: a freestanding house that doesn't share any common walls with its neighbours.

Attached townhouse: a house that shares one or two common walls with its neighbours but is otherwise a separate house with its own entrance.

Apartment building: a multi-storey building that contains multiple residences and often has a common entrance. Apartments share common walls with their neighbours to the side, above and/or below. Apartment buildings can take a variety of forms, including a house that has been renovated to contain multiple residences.

About you

Q1 How old are you?

- ○ 18–24
- ○ 25–29
- ○ 30–39
- ○ 40–49
- ○ 50–64
- ○ 65–74
- ○ 75–84
- ○ 85 or older

Q2 Where did you spend **most of your time** growing up?

- ○ Dunedin
- ○ Elsewhere in New Zealand
- ○ Overseas

Q3 How long have you lived in Dunedin?

- ○ Less than 1 year
- ○ 1–5 years
- ○ 5–10 years
- ○ More than 10 years

Q4 What is your occupation?

_____

Q5 What is your yearly household income, approximately?

- ○ Less than $30,000
- ○ $30,000–$50,000
- ○ $50,000–$100,000
- ○ $100,000–$200,000
- ○ More than $200,000

Your housing experience

Q6 Where in Dunedin do you live?

- ○ Suburb _____
- ○ Postcode _____

Q7 What type of dwelling do you live in?

- ○ Standalone house
- ○ Attached townhouse
- ○ Apartment building
- ○ Other _____

Q8 Do you own the home you live in?

- ○ Yes
- ○ No

Q9 How many people live in your household?

- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6 or more

Q10 What best describes your household type?

- ○ One person
- ○ Couple
- ○ 2 parents/caregivers with children
- ○ 1 parent/caregiver with children
- ○ Extended family household
- ○ Non-family household (e.g. a student flat)

Q11 What type of dwelling(s) did you grow up in? Select as many options as you wish.

- ☐ Standalone house
- ☐ Attached townhouse
- ☐ Apartment building
- ☐ Other (please specify) _____

Q12 Approximately how much time have you spent in the following dwelling types (including on holidays)?

	Never	Less than 6 months	6 months–1 year	1–5 years	6–10 years	More than 10 years
Standalone house	○	○	○	○	○	○
Attached townhouse	○	○	○	○	○	○
Apartment building	○	○	○	○	○	○

What is medium-density housing?

The rest of this survey will ask you about your views on medium-density housing (MDH). The definition of MDH used in this research is **attached dwellings up to 6 storeys**. This includes:

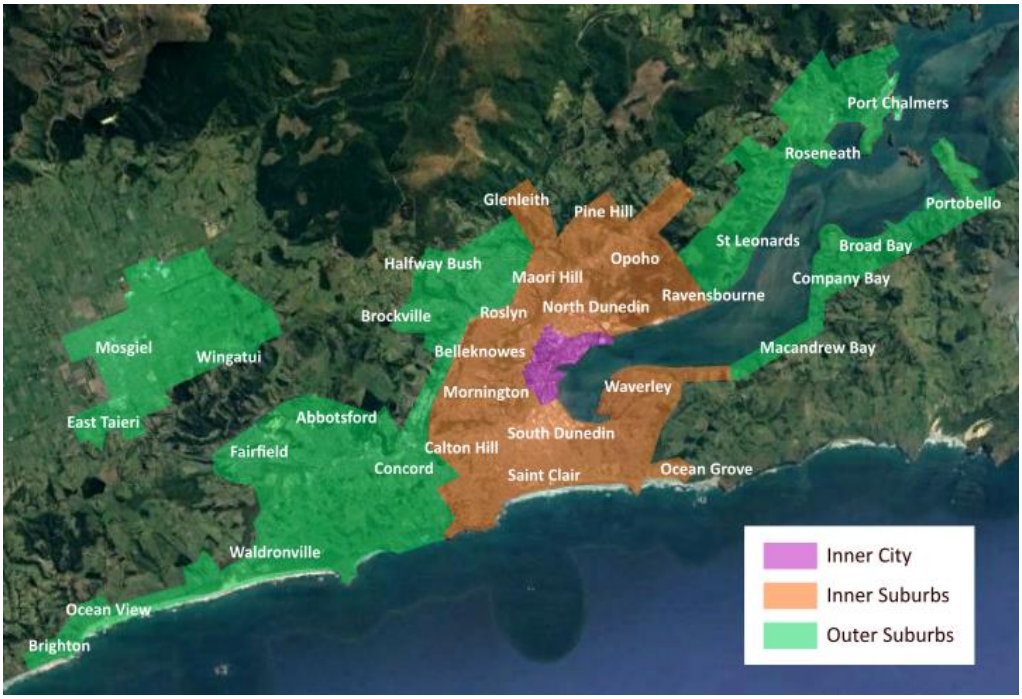
1. Attached townhouses
2. Low-rise apartment buildings (2–6 storeys/approx. 6–16 m)

It does **not** include:

1. Standalone houses
2. High-rise apartment buildings (taller than 6 storeys)

Like standalone houses, MDH may be owner-occupied, rented on the private market, or leased as social housing. MDH may be built by housing cooperatives, individuals, private property developers or the government.

Your views on MDH



Q13 The map above shows a general outline of where Dunedin's inner city, inner suburbs and outer suburbs are. If you were to **live** in MDH, what type and location would you choose? Select as many options as you wish.

	Inner city	Inner suburbs	Outer suburbs	Nowhere
Attached townhouse	☐	☐	☐	☐
2–4 storey apartment building	☐	☐	☐	☐
4–6 storey apartment building	☐	☐	☐	☐

Q14 In what circumstances would you consider living in MDH? Select as many options as you wish

- [ ] Never
- [ ] Before having children/as a young adult without children
- [ ] While raising children (if you have or intend to have children)
- [ ] After raising children/when middle-aged
- [ ] When needing to downsize for health reasons
- [ ] In any circumstance
- [ ] Other (please specify) _____

Q15 **In your opinion**, what are the **advantages of living** in MDH? Select as many options as you wish.

- [ ] There aren't any
- [ ] A smaller home is easier to take care of
- [ ] A small private garden and/or communal open space is easier to take care of
- [ ] Living closer to other people
- [ ] Living closer to town is more convenient (if it is located in or near the inner city)
- [ ] Living closer to town is more pleasant than living in a low-density suburb (if it is located in or near the inner city)
- [ ] It's a more environmentally-friendly lifestyle
- [ ] It's more affordable
- [ ] Other (please specify) _____

Q16 In your opinion, what are the **disadvantages of living in MDH**? Select as many options as you wish.

- [ ] There aren't any
- [ ] Not enough floorspace
- [ ] Not having a large private garden
- [ ] Living closer to other people
- [ ] Living closer to town is less pleasant than living in a low-density suburb (if it is located in or near the inner city)
- [ ] Lack of privacy
- [ ] Lack of natural light
- [ ] Too noisy
- [ ] Not suitable for children
- [ ] Not suitable for most pets
- [ ] It often looks ugly and/or lacks character
- [ ] It's often poorly designed
- [ ] It's often poorly constructed
- [ ] Other (please specify) _____

Q17 Would you support **building more** MDH in Dunedin? If so, what types of MDH, and where? Select as many options as you wish.

	Inner city	Inner suburbs	Outer suburbs	Nowhere
Attached townhouse	☐	☐	☐	☐
2–4 storey apartment building	☐	☐	☐	☐
4–6 storey apartment building	☐	☐	☐	☐

Q18 In your opinion, what are the advantages of building more MDH in Dunedin? Select as many options as you wish.

- ☐ There aren't any
- ☐ Increasing housing density will help to protect productive land and/or native habitat and/or recreational areas around Dunedin
- ☐ Increasing housing density will increase the amount of green space *within* Dunedin
- ☐ Increasing housing density will help to reduce carbon emissions from car travel
- ☐ It will create more housing options, so people who want to can live in MDH
- ☐ It will improve the look of Dunedin's neighbourhoods
- ☐ It will improve the character of Dunedin's neighbourhoods
- ☐ It's more energy efficient
- ☐ It's more affordable
- ☐ Other (please specify) _____

Q19 In your opinion, what are the **disadvantages** of building more MDH in Dunedin? Select as many options as you wish.

- [ ] There aren't any
- [ ] It will cause Dunedin's neighbourhoods to lose their character
- [ ] Increasing housing density will reduce the amount of green space *within* Dunedin
- [ ] Low-density suburbs of standalone houses are more pleasant
- [ ] It often looks ugly and/or lacks character
- [ ] It will result in 'slums' of low-quality housing
- [ ] It's often poorly designed
- [ ] It's often poorly constructed
- [ ] Other (please specify) _____

Examples of well-designed MDH

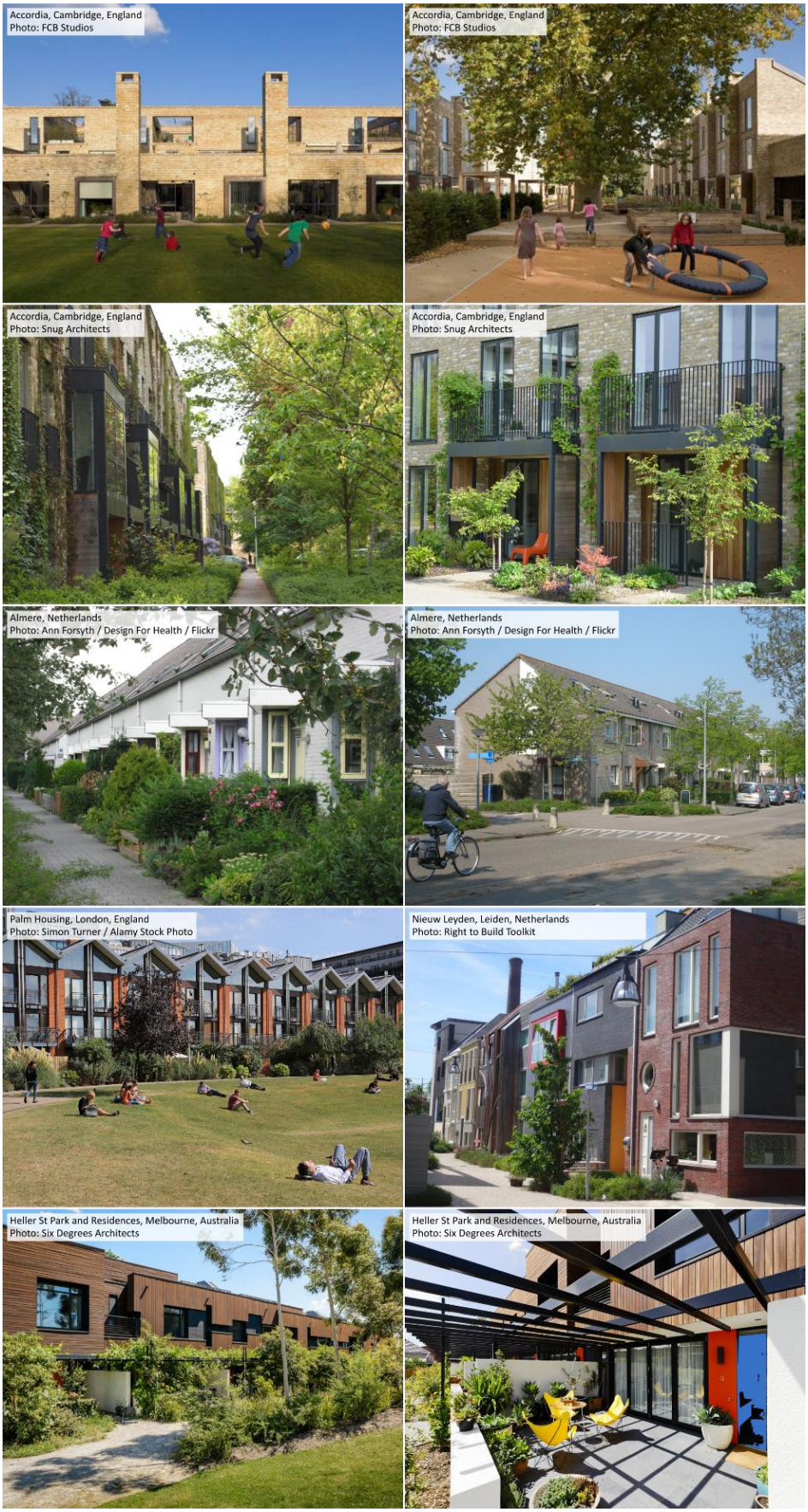
This section of the survey will present you with examples of MDH from around the world. The examples have been chosen because they are seen as well-designed by their residents and neighbours, as well as researchers and people working in the housing industry.

They all have the following design features:

1. Private and/or communal **open space (including green space)** that meets the needs of a variety of users (e.g. **safe for children,** pleasant for adults to spend time in)
2. A sense of **visual privacy** inside each home and in private and semi-private open spaces
3. **High quality materials and construction** so homes are **quiet, warm, dry and well-ventilated**
4. Considerable **natural light** through windows on multiple walls
5. A location **near shops, services and public open spaces** (e.g. parks, woodland)
6. Provision of **car parking space** and/or a location near **transport networks** (roads, public transport routes, walkways and cycleways)
7. Street frontages that **contribute positively to the neighbourhood**
8. Buildings that **look pleasant**
9. Can accommodate a **range of household types and needs**
10. Homes can be **personalised** by residents

Many of the examples are also recognised as being well-designed in terms of environmental performance (e.g. solar panels, innovative systems to improve energy and water efficiency and reduce waste).

Examples of attached townhouses



Q20 Considering the design summary and the photos above, did any features of these examples positively affect your view of **attached townhouses**? Select as many options as you wish.

- [ ] No features positively affected my views
- [ ] Access to open space
- [ ] Design of open space
- [ ] Amount of greenery
- [ ] Amount and/or design of private or semi-private open space (e.g. balconies, patios, courtyards, back yards)
- [ ] Provision of natural light
- [ ] Look of the street frontage
- [ ] Level of privacy
- [ ] Suitability for children
- [ ] Suitability for pets
- [ ] Construction quality (e.g. sound and thermal insulation, double or triple glazing)
- [ ] Look of the buildings
- [ ] Ability to accommodate a range of needs/household types
- [ ] Other (please specify) _____

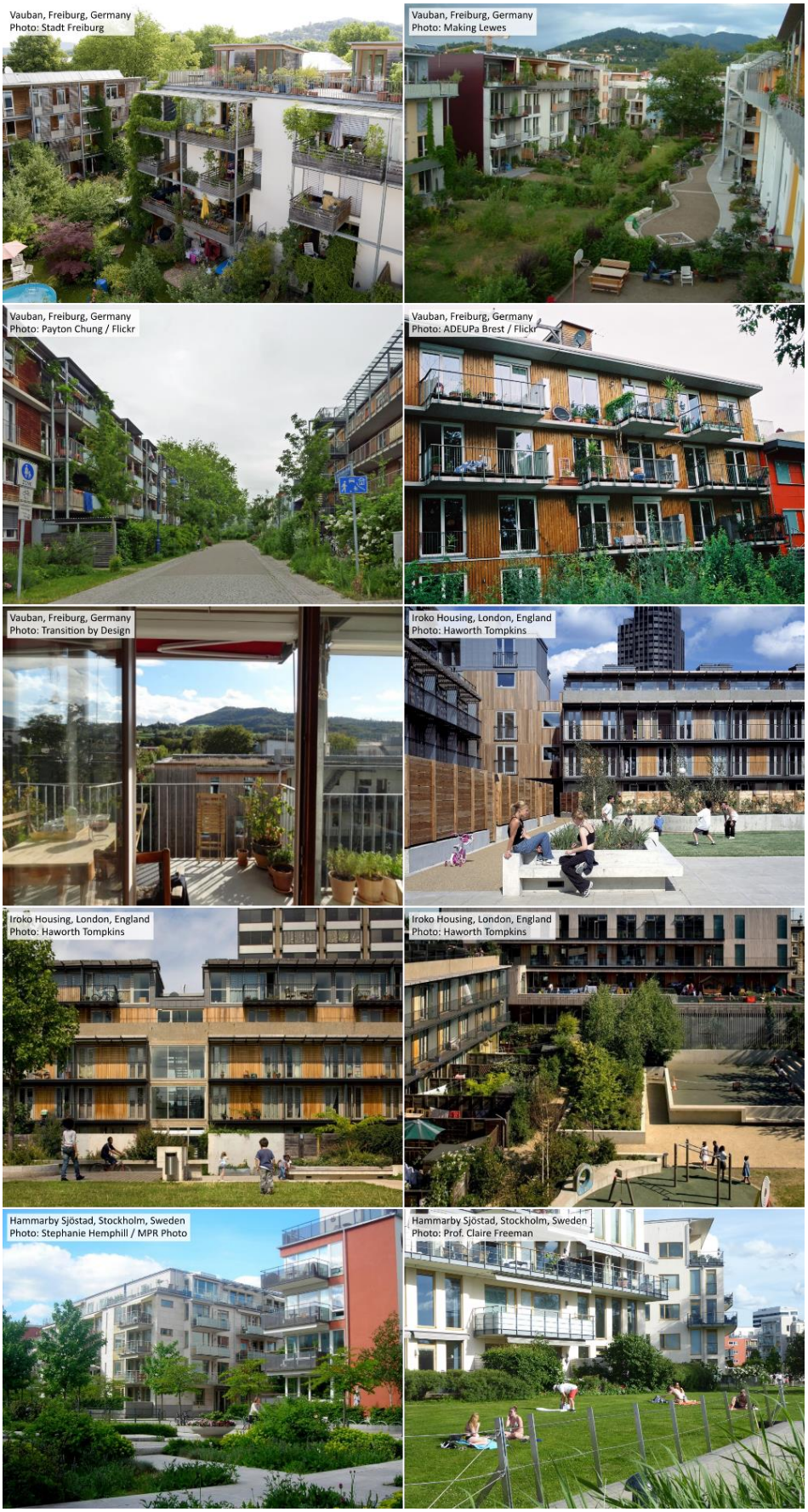
Q21 In what circumstances would you consider living in an attached townhouse, **if it was similar to the above examples**? Select as many options as you wish.

- [ ] Never
- [ ] Before having children/as a young adult without children
- [ ] While raising children (if you have or intend to have children)
- [ ] After raising children/when middle-aged
- [ ] When needing to downsize for health reasons
- [ ] In any circumstance
- [ ] Other (please specify) _____

Q22 Where in Dunedin would you support building more attached townhouses, **if they were similar to the above examples**? Select as many options as you wish.

- [ ] Inner city
- [ ] Inner suburbs
- [ ] Outer suburbs
- [ ] Nowhere

Examples of low-rise apartment buildings



Q23 Considering the design summary and the photos above, did any features of these examples positively affect your view of **low-rise apartment buildings**? Select as many options as you wish.

- [ ] No features positively affected my views
- [ ] Access to open space
- [ ] Design of open space
- [ ] Amount of greenery
- [ ] Amount and/or design of private or semi-private open space (e.g. balconies, patios, courtyards, back yards)
- [ ] Provision of natural light
- [ ] Look of the street frontage
- [ ] Level of privacy
- [ ] Suitability for children
- [ ] Suitability for pets
- [ ] Construction quality (e.g. sound and thermal insulation, double or triple glazing)
- [ ] Look of the buildings
- [ ] Ability to accommodate a range of needs/household types
- [ ] Other (please specify) _____

Q24 In what circumstances would you consider living in a low-rise apartment building, **if it was similar to the above examples**? Select as many options as you wish.

- ☐ Never
- ☐ Before having children/as a young adult without children
- ☐ While raising children (if you have or intend to have children)
- ☐ After raising children/when middle-aged
- ☐ When needing to downsize for health reasons
- ☐ In any circumstance
- ☐ Other (please specify) _____

Q25 Where in Dunedin would you support building more low-rise apartments, **if they were similar to the above examples**? Select as many options as you wish.

- ☐ Inner city
- ☐ Inner suburbs
- ☐ Outer suburbs
- ☐ Nowhere

Final questions

Q26 How much does the design of MDH (including how it looks and how well it functions) affect whether you would live in it?

0 1 2 3 4 5 6 7 8 9 10

Not at all *Somewhat* *Completely*

Q27 How much does the design of MDH (including how it looks and how well it functions) affect whether you would support building more of it in Dunedin?

0 1 2 3 4 5 6 7 8 9 10

Not at all *Somewhat* *Completely*

Q28 Any other comments?

_____

Q29 Some Dunedin residents will be interviewed as part of this research. If you are interested in participating and would like more information about what this would involve, please enter your email below.

_____

Q30 If you wish to receive the results of this research, please enter your email below.

_____

Appendix 2: Information sheet for interviewees

Reference Number: D20/207

Compact City?
Housing Dunedin's growing population

INFORMATION SHEET

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate, we thank you. If you decide not to take part, there will be no disadvantage to you, and thank you for your time.

What is the aim of the project?
This research is being undertaken as part of the requirements for the University of Otago Master of Planning. It aims to investigate the nature and extent of support for medium-density housing (MDH) in Dunedin. This is of interest because of Dunedin's housing supply and affordability challenges. Increasing housing density by building more MDH (attached townhouses and low-rise apartments) is arguably a more sustainable way to increase Dunedin's housing supply than continuing to build mostly low-density suburbs of standalone homes. However, it is important that the type of housing provided meets residents' needs, and that Dunedin develops in a way that its residents are happy with.

What types of participants are being sought?
We are interested in the opinions of any current Dunedin resident who is 18 or older whether you support building more MDH in Dunedin, oppose it, or have never even thought about it.

What will participants be asked to do?
Should you agree to take part, you will be asked to participate in a semi-structured, informal interview that will take up to 1 hour. The interview will take place at a time and location convenient to you, or over video call via Zoom. We wish to discuss your experiences with different housing types, your views on MDH, and what aspects of housing are most important to you. We also invite you to share any other thoughts about MDH and housing generally.
The interview will use an open questioning technique, meaning that the precise nature of the questions has not been determined in advance. If the line of questioning develops in a way that makes you feel hesitant or uncomfortable, you are free to decline to answer any question(s) or discontinue the interview, without any disadvantage to yourself.

What data or information will be collected and what use will be made of it?

The raw data collected will be audio recordings, any notes taken during the interview and transcriptions of the audio recordings. Only the researcher and supervisor will have access to the raw data, which will be stored on a password-protected computer. All interviews will be anonymous; quotations from the interviews may be used in the final thesis, but you will not be referred to by name. Please be assured that we will make every effort to ensure your anonymity. Any personal information provided will be used only for organising the interview and providing follow-up information or the final thesis, if requested. Personal information and audio recordings will be destroyed upon the completion of the research; other raw data upon which the project depends will be kept for up to 5 years in secure storage before being destroyed.

The results of this research may be published, and the final thesis will be publicly available on the Otago University Archive website so that it may be used by other researchers. It will also be made available to any participants in this research who have requested it. Additionally, the Dunedin City Council have expressed an interest in receiving the thesis, as the topic is relevant to their housing-related work.

Can participants change their mind and withdraw from the project?

You have the right to decline to answer any question, and you may ask for the interview to discontinue without any disadvantage to yourself. You may withdraw any information provided at any time before 31 September 2020.

What if participants have any questions?

If you have any questions about the project, either now or in the future, please feel free to contact either:

Vyvienne Evans (researcher)
School of Geography
Phone: 022 630 8609
Email: evavy207@student.otago.ac.nz

or

Prof. Claire Freeman (supervisor)
School of Geography
Phone: (03) 479 8785
Email: claire.freeman@otago.ac.nz

This study has been approved by the School of Geography. However, if you have any concerns about the ethical conduct of the research you may contact the University of Otago Human Ethics Committee through the Human Ethics Committee Administrator (phone +643 479 8256 or email gary.witte@otago.ac.nz). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.